



# Imperial Bureau of Plant Breeding and Genetics

## Plant Breeding Abstracts INDEX to Volume X

School of Agriculture  
Cambridge  
England



# **Plant Breeding Abstracts**

**Published by the Imperial Bureau of Plant Breeding  
and Genetics, School of Agriculture  
Cambridge**

**Author and Subject Indexes to  
Volume X  
1940**

**Cambridge  
1941**



Digitized by the Internet Archive  
in 2025

## CONTENTS

	PAGE
AUTHOR INDEX - - - - -	5
KEY TO SUBJECT INDEX - - - - -	12
CLASSIFIED SUBJECT INDEX - - - - -	21
CORRIGENDA - - - - -	34

## NOTE ON THE USE OF THE SUBJECT INDEX TO PLANT BREEDING ABSTRACTS

Summaries in "Plant Breeding Abstracts" are all given classification numbers based on the Universal Decimal Classification of the Institut International de Bibliographie. According to this system the whole field of knowledge is divided into ten primary classes, of which we are mainly concerned with only two, .5, representing Pure Science and .6, Applied Science. These numbers are decimals and may be subdivided by adding decimal places; for convenience in use, however, the decimal point is omitted; further points are inserted usually between every three figures, again merely for convenience of reference. The following example shows this method of subdivision:

6	Applied Science
61	Medicine
63	Agriculture
632	Plant diseases and pests
633	Special Crops
633.1	Cereals
633.11	Wheat

In spite of the great amount of detail in the Classification, it usually happens that a single number is not sufficient to locate an idea. The usual device is then to subdivide further by adding a colon and a second number, representing a second concept, thus:

633.11              Wheat  
575.243              Induced mutation  
633.11:575.243    Induced mutation in wheat

This process may be repeated to almost any length, e.g.:

581.45 Leaves

537.531 X-rays

633.11:581.45:575.243:537.531 Mutation of a leaf character in wheat induced by X-rays

The device has the additional advantage that the numbers can be reversed in filing and the reference made to appear under each of the relevant subjects, e.g. the above example would be treated as follows:

633.11:581.45:575.243:537.531 File under wheat  
581.45:633.11:575.243:537.531 File under leaves  
575.243:633.11:581.45:537.531 File under induced mutation  
537.531:633.11:581.45:575.243 File under X-rays

In such cases certain other reversals are possible, such as:

633.11:575.243:581.45:537.531  
633.11:537.531:581.45:575.243

The Subject Index included in this volume is in essentials a summary of the card catalogue kept at the Bureau and compiled according to the above system. It enables the user to find readily all the references on any particular topic in Volume X of "Plant Breeding Abstracts" or, when used in conjunction with the Subject Indexes to Volumes I-V, VI-VIII and IX, in the whole of "Plant Breeding Abstracts".

The method of use is simply to refer to the Key to the Subject Index on pp. 12-20 and there find the numbers for the subject sought, and then to refer to the appropriate combination in the Subject Index itself. It should be borne in mind, however, that reference to a particular topic may be made in more general papers bearing a number with less decimal places, e.g. although most references to rust in wheat will be found under the combination 633.11:632.452, some will be included in such combinations as the following:

633.1:632.452 (Rust in cereals)  
633.11:632.4 (Fungous diseases in wheat)

Certain special usages remain to be commented on. A stroke between two numbers, e.g. 633/635, means that the sections from 633 to 635 inclusive, together with their subdivisions, are referred to. The numbers in brackets used in "Plant Breeding Abstracts", e.g. (54), are geographical subdivisions. 633.1(54), for instance, means Cereals in India. These geographical numbers have only been used sparingly in the Index and no attempt has been made to group together in any place all the research work according to the country where it was done.

# AUTHOR INDEX

## to Plant Breeding Abstracts, Volume X

- ABBE, E. C., 434  
Abbott, E. V., 1067, 1072  
Adriance, G. W., p. 65  
Afzal, M., *see* Mohammad Afzal  
Akenhead, D., 921  
Åkerberg, E., 152, 257  
Åkerman, Å., 75  
Alešin, E. I., p. 67  
Ali Mohammad, 304  
Allen, C. E., 992  
Almeida, J. M. de, 385, 729  
Alpat'ev, A. V., 900  
Amin, K. C., 626  
Anderson, D. B., p. 318  
Anderson, E., 184  
Anderson, E. G., 1032  
Andres, J. Ma., 426  
Angeli, G., 332  
Angelo, E., 1088-9  
Angremond, A. d', 849  
[Anson, R. R.], 621  
Araratian, A. G., 241, 898  
Araratjan, *see* Araratian  
Arceneaux, G., 182  
Archimovitch, *see* Arkhimovich  
Arkhimovič, *see* Arkhimovich  
Arkhimovich, A., 809  
Arkin, H., p. 248  
Armstrong, G. M., 368  
Arnautov, V. V., 784, p. 66  
Arzuaga, J. G., 1006  
Ashby, E., 63  
Ashby, M., 649  
Atabekova, A. I., *see* Atabekowa, A. J.  
Atabekowa, A. J., 997  
Atwood, S. S., 470, 676  
Austin, L., 69, 879  
Avanzi, E., 456  
Avery, G. S. (jun.), 331  
Avery, P., 42  
Ayyangar, G. N. Rangaswami, *see* Rangaswami Ayyangar, G. N.  
Azevedo, J. P. de, 1008  
Azzaroli, F., 558
- B....., A. F., 637  
Babcock, E. B., 730, 982  
Bachtadze, *see* Bakhtadze  
Badami, V. K., 1  
Bailey, C. H., 744  
Bailey, L. H., 893  
Baker, J. A., 27  
Baker, K. F., 547  
Bakhtadze, K. E., 833  
Baldrati, I., 772  
Ball, R. S., 585  
[Bamtefa, A. O.], 621  
Bangham, W. N., 849  
Barabanov, P. N., 789  
Barbee, O. E., 445  
Barducci, T. B., *see* Boza, B. T.  
Barrett, C., 867  
Barrons, K. C., 910  
Bartolucci, A., 509  
Barua, P. K., 641  
Baten, W. D., 665  
Bates, G. H., 9
- Batten, E. T., 1112  
Bayles, B. B., 102, 1016  
Beadle, G. W., 136, 329  
Beard, F. H., 51  
Beasley, J. O., 795, 1062-3  
Beattie, J. H., 1112  
Becker, C. L., 163  
Beckmann, I., 726  
Beecher, F. S., 574  
Bell, G. D. H., 927  
Belovitsskaya, *see* Belovitsskaya  
Belovitsskaya, N. A., 802  
Belval, H., 154  
[Beregovaja, M. M.], 1074  
Berezina, N., 515  
Berg, S. O., 724  
Bergstrom, I., 882  
Berkner, F. W., 128  
Berkson, J., 974  
Bernardini, L., 828  
Bernton, G., 1127  
Bethmann, W., 231  
Bhola Nath, 624  
Bigger, J. H., 1035  
Binkley, A. M., 888  
Bjaanes, M., 364  
Björling, K., 482  
Blake, M. A., 216, 1103-4  
Blakeslee, A. F., 508  
Blanchard, R. A., 1035  
Bleier, H., 342  
Blin, H., 559  
Boas, F., 704  
Bodrov, M. S., 1013  
Boerger, A., 383  
Boeuf, 1005  
Bohn, G. W., 903  
Bojarskii, *see* Boyarsky  
Bolhuis, G. G., 865, 916  
Bolsounov, *see* Bolsunov  
Bolsunov, I. [811], 827  
Bondar, G., 192, 866, 1113  
Bonnier, G., 683  
Booberg, G., 1073  
[Boortzhev, G. A.], 811  
Borden, R. J., 70  
[Bordonos, M. G.], 1075  
[Boris, P. M.], 1075  
Bose, R. D., 66  
Bose, S. S., 632  
Both, M. P., 979  
Bougy, E., 808  
Bowden, W. M., 363  
Bowers, F. A. I., 505  
[Bowmaker, P. A.], 621  
Boyarsky, Y., 822  
Boyes, J. W., 938  
Boza, B., T., 625, 1061  
Bradford, F. C., p. 154  
Branas, J., 1127  
Brandes, E. W., 502, 638, 958, 1071  
Breakwell, E. J., 600  
Bredemann, G., 193  
Bregman, A., 841  
Breider, H., 233  
Bremer, A. H., 1163  
Breviglieri, N., 894  
Brieger, F. G., 221
- Briggs, F. N., 143, 279, 763, 1017  
Brink, R. A., 468, 510, 1032, 1052  
Brison, F. R., p. 65  
Broekema, 78  
[Brojakovskii, N. V.], 1075  
Brown, H. B., 487  
Brown, R. T., 1088  
Brown, W. L., 458  
Broyakovskiy, *see* Brojakovskii  
Bryan, A. A., 1028  
Builin, D. P., 405  
Builina, E. S., 405  
Bujanov, Ju. M., 410  
Bukasov, S. M., 475, p. 254  
Bunyard, E. A., 60  
Burbank, L., p. 151  
Burnham, C. R., 437  
Burton, G. W., 1049  
Burtshev, Ju. A., *see* Boortzhev, G. A.  
Busanov, *see* Buzanov  
Busch, N. A., p. 152  
Bustanet, J., 110  
[Buzanov, I. F.], 1075  
Byrom, M. H., 797  
Bystrov, B. A., 1013
- C....., 1110  
Calder, R. A., 659  
Cámaras, A., 341, 397  
Cameron, C., 35  
Camp, B. H., 975  
Capinpin, J. M., 134, 176, 429  
Carson, G. P., 613  
Cartledge, J. L., 437  
Caruso, C., 829  
Carvalho, A., 44, 511-2  
Carvalho e Vasconcellos, J. de, *see* Vasconcellos, J. de Carvalho e  
Čebolda, V. F., 1075  
Černjaev, *see* Tchernaev  
Česnokov, *see* Chesnokov  
Chamberlain, E. E., 663  
Chapman, W. H., 1039  
Charecko-Savitzkaya, *see* Kharečko-Savitskaja  
Charetschko-Sawitzkaja, *see* Kharečko-Savitskaja  
Chen, Y. S., 174  
Chesnokov, P. G., 409, 1019  
Chevalier, A., 787, 835  
Chevalier, R., 110  
Chew, A. P., 983  
Chi Pao Yu, 290-1  
Chiappelli, R., 448  
Christoff, M., 813  
Church, G. L., 1050  
Churchward, J. G., 610  
Ciferrí, R., 189, 373, 401, 721-2, 738, 772, 1125  
Clark, A. G., p. 250  
Clark, C. F., 161, 786  
Clark, F. J., 433, 1033  
Clark, J. A., 382  
Clark, J. H., 1120  
Clayton, E. E., 1077  
Cochran, W. G., 72, 598, 976  
Coe, F. M., 1123

- Coffman, F. A., 124, 1023  
 Coit, J. E., 868  
 Colby, A. S., 1118  
 Coleman, O. H., 614  
 Colenbrander, G. H., 848  
 Collins, J. L., 547  
 Colton, R. R., p. 248  
 Comrie, A. A. D., 280, 964  
 Condit, I. J., 1115  
 Contardi, H. G., 1148  
 Coolhaas, C., 986-7  
 Cooper, D. C., 466, 468, 510, 1052  
 Cope, F. W., 47-50  
 Copeland, F. C., 1033  
 Copertino, S., 765  
 Copper, R. R., 757  
 Cornish, E. A., 922, 924-5  
 Corns, J. B., 891  
 Corsan, G. H., 539  
 Costa, A. S., 1078  
 Costa e Sousa, L. de Oliveira Mendes da, *see* Sousa, L. de Oliveira Mendes da Costa e  
 Courtine, J., 735  
 Coutinho, L. A., 397  
 Cowden, D. J., p. 249  
 Cox, G. M., 978  
 Cox, H. A., p. 154  
 Crane, M. B., 651, 969-70  
 Creighton, H. B., 331  
 Crist, J. W., 215, 536, 1102  
 Croxton, F. E., p. 249  
 Cugnac, A. de, 154, 463  
 Currence, T. M., 245  
 Curteis, W. M., 15, 272, 602, 936  
 Curtis, L. C., 1149
- D**....., L. R., 639  
 Dahl, A. O., 361  
 Dahlberg, G., p. 249  
 Dahms, R. G., 769  
 D'Amato, F., 1087  
 Daniel, L., 577  
 Darlington, C. D., 2, 268  
 Darrow, G. M., 1120, 1124  
 Davey, V. McM., 28  
 Davidson, W. D., 285  
 Davis, J. F., 73  
 Day, B. B., 69  
 De Vries, L., p. 64  
 [Deighton, F. C.], p. 322  
 Delwiche, E. T., 579  
 [Demčinskaja, E. N.], 1075  
 Dengler, A., 1140  
 Deshpande, R. B., 52  
 Dillewijn, C. van, 636, 1139  
 Dimitz, L., 720  
 Dimock, A. W., 365  
 Dodge, B. O., 98  
 Donà dalle Rose, A., 179, 519  
 Doolittle, S. P., 248, 574  
 Dorsey, E., 101  
 Dorst, J. C., 167  
 Doutreligne, J., 336  
 Down, E. E., 751  
 Drahorad, F., 720  
 Drewes, H., 566, 895  
 Dsubenko, *see* Dzubenko  
 [Dubinin, P. A.], 1075  
 Dubov, T. I., 144  
 [Ducker, H. C.], 621  
 Dudok van Heel, J. P., 315  
 Duffield, J. W., 1131  
 Dundas, B., 251  
 Durand, J.-F., 703
- Dusseau, A., 506  
 Dzjubenko, *see* Dzubenko  
 Dzubenko, L., 819
- EAST**, E. M., 999  
 Eckhardt, R. C., 1028  
 Edmundson, W. C., 1058  
 [Egorov, V. A.], 1075  
 Einset, J., 434  
 Ekinci, A. S., 1158  
 Ekstrand, H., 575  
 Eliason, E. J., 236  
 Elladi, K. V., 800  
 Ellerton, S., 604, 937  
 Elsocht, P., 514  
 Emme, E. K., 783, 1022  
 Emme, H., *see* Emme, E. K.  
 Emmert, E. M., 977  
 Engelbeem, M., 791  
 Engledow, F. L., 288  
 Enikéev, Kh. K., 214  
 Enin, T. K., 247  
 Enken, V. B., 578  
 Enzie, W. D., 1147  
 Enzmann, E. V., 94  
 [Eremeev, G. N.], 1093  
 Ermakov, A. I., 517  
 Esdorn, I., 199  
 Evans, G., 645  
 Evans, H., 294  
 Evreinoff, M. V., 535, 545  
 Ewen, A. H., p. 319  
 [Eyre, J. C.], 621
- FABERGÉ**, A. C., 267  
 Fagerlind, F., 191  
 Fallon, F., p. 153  
 Faria, C. V. de Oliveira, 488  
 Fassett, N. C., p. 318  
 Fatalizade, F. A., 817  
 Favorsky, M. V., 350  
 [Fedorovič, L. I.], 1075  
 Feilden, G. St. C., p. 252  
 Fennah, R. G., 40  
 Fernando, M., 259, 661  
 Ferrand, M., 847  
 Fetisov, *see* Fetissov  
 Fetissov, A. I., 421  
 Feytaud, J., 172  
 [Fielding, W. L.], 621  
 Fifield, C. C., 102  
 Fikry, A., 1100  
 [Filatova, T. A.], 1075  
 Filosofova, T. P., 214  
 Filov, A. I., 244  
 Fischer, A., 775  
 Fisher, R. A., 923  
 Ford, C. E., 56, 967  
 Fouarge, J., 881  
 Fowlds, M., 157  
 Frahm-Leliveld, J. A., 1080  
 François, E., 1079  
 Frankel, O. H., 612  
 Franken, H. J., 979  
 Fransen, J. J., 714  
 Franzke, C. J., 461  
 Fraser, A. C., 130  
 Frimmel, F., 420  
 Funchess, M. J., 674
- GADDINI**, L., 1125  
 [Gaevskaia, I. G.], 1075  
 [Galeev, G. S.], 713
- Gandrup, J., 1081  
 Gardner, V. R., p. 154  
 Garl, J. R., 1051  
 Garrett, S. D., 12, 596  
 Garrido, T. G., 500-1  
 Gates, R. R., 4, 260  
 Gavaudan, N., 353, 356, 697, 703  
 Gavaudan, P., 353, 356, 697, 703  
 Gavris', V. P., 887  
 Gelin, O., 748  
 Gel'mer, *see* Helmer  
 Genčev, *see* Gentcheff  
 Generalov, G. F., 581  
 Gentcheff, G., 242, 681  
 Geoffrey, R., p. 66  
 Georgi, C. D. V., 11, 595  
 Gerasimova, *see* Gerassimova  
 Gerassimova, H., 354, 700  
 Germek, E., 452  
 Geschele, E. E., [713], p. 322  
 Gešele, *see* Geschele  
 Ghose, R. L. M., 624  
 Gibbens, R. T. (jun.), 182  
 [Gibberd, A. V.], p. 320  
 Giglioli, R. G., 373, 401, 721  
 Gilbert, W. W., 989  
 Gilev, M. I., 518  
 Gill, N. T., 57  
 Gillett, S., 962  
 Gini, E., 1024  
 Gisquet, P., 506  
 Gistl, R., 704  
 Glinjany, *see* Glinyany  
 Glinyany, N. P., 360  
 Glotov, V., 357  
 Goidanich, G., 558  
 Góis, L. A. de Almeida, 712  
 Gol'dgauzen, *see* Goldhausen  
 Goldhausen, M., 246, 572  
 Golubinskaja, *see* Holubinskaja  
 Golubinskii, *see* Holubinsky  
 Gondō, A., 807  
 Goodspeed, T. H., 42  
 Gorlač, A. A., 407, [1075]  
 Graner, E. A., 1027, 1076  
 Granhall, I., 799  
 Graves, A. H., 556  
 Grebennikov, P. E., 732  
 Grechukhin, E. I., 802  
 Grečukhin, *see* Grechukhin  
 Greenleaf, W. H., 187  
 Greeves-Carpenter, C. F., 863  
 Gregory, W. C., 344  
 Greis, H., 764  
 Griesinger, R., 472  
 [Grin'ko, T. F.], 1075  
 Grjuner, *see* Grüner  
 Groenewolt, J. K., 372  
 [Gromik, I. U.], 1075  
 Groszmann, H. M., 61  
 Grüner, M. N., 855  
 Guard, A. T., 406  
 [Gudvil, S. V.], 1075  
 Guerzi, E., 109  
 Guseva, *see* Gusseva  
 Gusseva, A., 352, 695-6  
 Gustafsson, Å., 242, 681  
 Györffy, B., 1085
- H**....., A., 669  
 H....., A. G., 631  
 Haan, H. de, 371  
 Haertl, E. J., 345  
 Hagedoorn, 85, 675

- Hahn, G. G., 225  
 Halcrow, M., 302  
 Hall, C. J. J. van, 644  
 Hamid, S., 27  
 Hand, D. B., 761  
 Hansford, C. G., 292  
 Hårdh, H., 568  
 Harlan, H. V., 1037  
 Harlan, J. D., 838  
 Harland, S. C., 32, 627  
 Harmon, F. N., 1128  
 Harrington, J. B., 608–9  
 Harris, R. H., 114–5  
 Harrison, A. L., 369  
 Harvey, P. H., 131  
 Harvey, R. B., p. 153  
 Hatton, R. G., 51  
 Haudricourt, A., 1056  
 Haupt, A. W., p. 151  
 Havas, L. J., 694  
 Hayes, H. K., 135, 414, 438, 1029  
 Heeger, E. F., 837  
 Heiberg, H. H. H., 1136  
 Heierle, E., 812  
 Heilborn, O., 211  
 Heilbronn, A., 990  
 Heim, R., p. 152  
 Heinisch, O., 715  
 [Helmer, O. F.], 1075  
 Henderson, P., 583  
 Henry, T., 194  
 Henry, V. M., p. 252  
 Henson, L., 1054  
 Heyne, E. G., 762  
 Hickman, C. J., 971  
 Higgins, B. B., 543  
 Hilgendorf, F. W., p. 323  
 Hill, H. D., 460  
 Hind, H. L., p. 323  
 Hino, I., 74  
 Hirama, S., 484  
 Hitier, H., 506  
 Hodgson, R. W., 1108  
 Hoed, F., 514  
 Hoedt, T. G. E., 719  
 Hoffman, I. C., 899  
 Hoffmann, W., 803  
 Hofmeyr, J. D. J., 309, 654  
 Holman, H. J., p. 323  
 Holmberg, S. A., 253  
 Holubinskaja, N. I., 839  
 Holubinsky, I. N., 205, 839–40  
 Honig, F., 843  
 Hooker, H. D. (jun.), p. 154  
 Hopkins, R. H., 591  
 Hopkins, T. T., 919  
 Hopper, T. H., 195  
 Hore, H. L., 277  
 Houghtaling, H. B., 901  
 Houtzagers, G., 555  
 Howard, H. W., 567, 658  
 [Hoyle, S. T.], 621  
 Huberman, M. A., 1135  
 Huelsen, W. A., 912  
 Hume, A. N., 461  
 Humphrey, L. M., 491, 793  
 Humphrey, N., 58  
 Hunter, H., 20  
 Hurel-Py, G., 1084  
 Husfeld, B., 548  
 Hussainy, S. A., 617  
 Hutchins, A. E., 1151  
 Hutchinson, J. B., 289, 489–90, [621],  
     622, 624, 928  
 Hutton, E. M., 600  
 INNES, R. F., 954  
 Inouye, Y., 1109, 1150, 1156  
 Ivanov, P. K., 111  
 Ivanov, V. I., 476  
 Ivanovskaja, E. V., 164, 478  
 JACOB, K. T., 966  
 Jack, H. W., 261  
 Jagger, I. C., 570, 1144  
 Jagoe, R. B., 616  
 [Jameson, J. D.], 621  
 Janaki-Ammal, E. K., 635  
 Jannaccone, A., 156, 240, 243  
 Jaretzky, R., 906  
 Jasnowski, S., 118  
 Jeffrey, E. C., 345  
 Jenkins, J. M., 770  
 Jenkins, J. M. (jun.), 889  
 Jenkins, M. T., 424  
 Jensen, H. W., 337  
 Jodon, N. E., 1044  
 Johnson, I. J., 135, 1029  
 Johnson, J., 830–1  
 Johnson, L. P. V., 310–1, 1134  
 Johnson, T., 10, 592, 742  
 Johnstone, F. E. (jun.), 477  
 Johnston, S., 1122  
 Jones, D. F., 138, 1030  
 Jones, D. L., 797  
 Jones, H. A., 563  
 Jong, W. H. de, 201  
 Jørgensen, C. A., 77  
 Joshi, W. V., 21  
 Journée, C., p. 67  
 Justesen, S. H., 68
- KACHIDZE**, *see* Kakhidze  
 Kadam, B. S., 147, 767  
 Kagawa, F., 100, 105, 149, 173, 1059  
 Kajitch, M., 823  
 Kakhidze, N. T., 419, 733  
 Kakizaki, Y., 1007  
 Kale, G. T., 112  
 Kalmykov, S. S., 1094  
 Kasahara, Y., 399  
 Kaspar'jan, *see* Kasparyan  
 Kasparyan, A. S., 731, 796  
 Katanskaja, G. A., 462  
 Kattermann, G., 108, 141  
 Kaznowski, L., 810  
 Kearney, R. H., 1060  
 Kendrick, J. B., 143  
 Kent, G. C., p. 66  
 Kent-Jones, D. W., p. 68  
 Kenway, C. B., 13  
 Kerr, H. W., 633  
 Khambanonda, I., 176  
 Khan, M. A., 584  
 Khan, S., 283  
 Khanna, K. L., 632  
 [Kharečko-Savitskaja, E. I.], 1075  
 Kharečko-Savitska, *see* Kharečko-Savitskaja  
 Kharitonova, S. M., 1086  
 Khašba, L. Kh., 206  
 Khushi Mohammad, 951  
 Kibizov, V. P., 431  
 Kihara, H., 86, 745, 1009, 1020–1  
 Kilany, M. A. El, 493, 499  
 Killough, D. T., 797  
 [King, H. E.], 621  
 [King, J. G. M.], 621  
 King, J. R., 1099  
 Kiseleva, A. K., 375
- Klinkowski, M., 472  
 Knapp, E., 803  
 [Knight, R. L.], 621  
 [Knjševetskaja, T. I.], 1093  
 Knjaginičev, M. I., 706  
 Knowles, P. F., 608–9  
 Knyaginichev, *see* Knjaginičev  
 Koehler, A., 234  
 Komarov, V. L., p. 152  
 Kondo, J. N., 877  
 Kondo, M., 399  
 Kondrat'eva, M. N., 871  
 Kopetz, L. M., 569  
 Koroleva, V. A., 204  
 Kosaka, H., 1043  
 Košel'kova, N. N., 582  
 Kosswig, C., 990  
 Kostoff, D., 6–8, 18, 41, 185, 197, 338,  
     349, 351, 422, 590, 702, 820, 832  
 Kotval, J. P., 650  
 Kouba, T. F., 560  
 Kovalev, N. V., 851, 857  
 [Kovalevskaja, M. F.], 1075  
 Kovalevskaya, *see* Kovalevskaja  
 Kovarskii, A. E., 913  
 [Kovtun, T. D.], 1075  
 Kozhin, A. E., 196  
 Kozhuhov, I. V., 759  
 Kozubenko, V. E., 436  
 Kožukhov, *see* Kozhuhov  
 Kraevoi, S. Ja., 441  
 Krajevoj, *see* Kraevoi  
 Krayevoy, *see* Kraevoi  
 Krebčenko, L. E., 897  
 Krickl, M., 564  
 Krishna Menon, K., 303  
 Kröner, W., 165  
 Krug, C. A., 44, 301, 511–2  
 Krumbhaar, C. C., 182  
 Kudagovskii, V. A., 210  
 Kuhn, E., 705  
 Kulkarni, R. K., 767  
 Kumar, L. S. S., 21, 648  
 Kunhi Koran Nambari, A., 26  
 Kuprijanov, S. I., 389  
 [Kurbatova, A. T.], 1075  
 Kurgatnikov, M. M., 258  
 Kutts, *see* Kutz  
 Kutz, A. L., 1157  
 Kuwada, Y., 339  
 Kuzmin, A. I., 544, 1119  
 Kuz'min, A. Ja., *see* Kuzmin, A. I.  
 Kuznetsov, P. V., 532
- LACOTTE**, 172  
 Lamb, C. A., 725  
 Lamb, J., 642  
 Lambers, M. Hille Ris, 836  
 Lamprecht, H., 249, 255–7, 670, 909  
 Landes, M., 125  
 Langham, D. G., 430  
 Langlet, O., 886  
 Langner, W., 1141  
 Lanjouw, J., 504  
 Lantelmé, W., 1137  
 Lappo, A. I., 177  
 Larroque, P., p. 252  
 Lattin, G. de, 230  
 Laude, H. H., 762  
 Laustsen, O., 711  
 Lawrence, W. J. C., 587, p. 64  
 Le(eake), H. M., 37–8, 269  
 Lebedeva, A. I., 258  
 LeClerg, E. L., 1055

- Ledingham, G. F., 467  
 Leggieri, L., 239  
 Leiper, R. T., 620  
 Leliveld, J. A., 190  
 Leme, Z., 221  
 Leonard, W. H., p. 250  
 Lesley, J. W., 859, 1105  
 Levadoux, L., 1127  
 Levitsky, G. A., 396  
 Lewcock, H. K., 656  
 Lewis, D., 651, 1117  
 Li, C. H., 1040  
 Li, H. W., 1040  
 Lima, A. R., 1078  
 Lincoln, F. B., 1097  
 Lincoln, R. E., 1034  
 Lind, E., 525  
 Lintner, J. L., 957  
 Litardière, M. R. de, 1047  
 Littlefield, E. W., 236  
 Livermore, J. R., 980  
 Li-Ying Shen, 737  
 [Lobodin, K. I.], 1075  
 [Lochrie, J. V.], 621  
 Lock, G. W., 293  
 Lomako, A. Z., 442  
 Lombard, P. M., 786  
 Longley, A. E., 432  
 Loo, W. S., 698  
 Love, R. M., 394  
 Lubenez, P. A., 469  
 Luckwill, L. C., 63  
 Luk'janenko, Ja., 995  
 Luk'janjuk, V. I., 403  
 Lunden, A. P., 166  
 Lykov, T. G., 538  
 Lykova, P. I., 538
- M**  
 McCalla, A. G., 611  
 McCallum, G. A., 87  
 McClelland, C. K., 417  
 McClintock, B., 137  
 [Macdonald, D.], 621  
 MacEwan, J. W. G., p. 319  
 McEwen, J., 274  
 McFadden, E. S., 117  
 McGoldrich, F., 1055  
 Macindoe, S. L., 603  
 McIntosh, A. E. S., 634, 952-3  
 McIntosh, T., 619  
 Mackay, E. L., 496  
 McKay, J. W., 1111  
 Mackie, W. W., 252  
 [McKinstry, A. H.], 621  
 McMartin, A., 955  
 McUmber, R. R., 546  
 Mäde, A., 79  
 Madoo, R. M., 625  
 Magruder, R., 1160  
 Mahalanobis, P. C., 632  
 Maier, J., 853  
 Makhnorylo, V. F., 318  
 Malik Amanat Khan, *see* Khan, M. A.  
 Malinovskaja, E. S., 408  
 Mangelsdorf, P. C., 760, 1026  
 Mann, C. E. T., 55, 307  
 [Manning, H. L.], 621  
 Mansvetov, V. I., 856  
 Marčenko, I. I., 520  
 Marchioni, A. H., 1036  
 [Marinčík, G. F.], 1075  
 Marino, A. E., 427  
 Maritz, S. M., 957  
 Mar'janovič, *see* Maryanovich
- Marshak, A., 88, 90, 92  
 Martin, H., p. 323  
 Martin, J. H., 769  
 Martini, M. L., 1037  
 [Martynenko, F. D.], 1075  
 Maryanovich, O., 818  
 Mather, K., 2, 266, 589  
 Matsumoto, K., 1020  
 Matsumura, S., 104, 386, 1011  
 Mattson, H., 162  
 Matveeva, E., 870  
 Matz, J., 638  
 [Mayo, J. K.], 621, p. 320  
 Mayr, E., 736, 766  
 [Mazlumov, A. L.], 1075  
 Meader, E. M., 1104  
 Medvedeva, *see* Medwedewa  
 Medwedewa, G. B., 806  
 Mehta, C. V., 30  
 Mehta, K. C., 940  
 Meijere, J. C. H. de, 686  
 Melhus, I. E., p. 66  
 Mellor, D. H. S., 600  
 Menabde, V. L., 395  
 Mendes, A. J. T., 301  
 Mendes, J. E. T., 511  
 Mendiola, N. B., 862  
 Meng, J. C., 1040  
 Mensinkai, S. W., 3  
 Ménaré, G., 317  
 Menon, K. Krishna, *see* Krishna  
 Menon, K.  
 Mensinkai, S. W., 312  
 Mercado, T., 183  
 Merrill, T. A., 1122  
 Meulen, J. G. J. van der, 450, 453  
 Meunissier, A., 528  
 Meyer, B. S., p. 318  
 Michels, C. A., 428  
 Middleton, G. K., 131, 1039  
 Midusima, U., 150-1, 771  
 Miège, E., 735, 779  
 Miège, J., 774  
 Mikell, J. J., 1152  
 Mikhailovskii, V., 446  
 [Mikhel'son, L. A.], 1093  
 Milan, A., 741  
 Miljan, A., 178  
 Miller, J. C., 226, 486, 1055, 1057, 1152  
 Miller, W. B., 277  
 [Miller, W. L.], 621  
 Mills, W. R., 169  
 Minkevič, I. A., 845  
 Miranda, S., 1082  
 Miščenko, A. S., 1074  
 Mirov, N. T., 238  
 Mirzajan, A. I., 376, 384  
 Mishima, T., 1046  
 Mitchell, R. S., 593  
 Modilevskii, *see* Modilewski  
 Modilewski, J., 819, 824, 826  
 Mohammad, A., *see* Ali Mohammad  
 Mohammad Afzal, 623  
 Mohammad, K., *see* Khushi Mohammad  
 Mohammad, N., *see* Noor Mohammad  
 Moore, M. B., 414  
 Moore, R. C., 530, 1098  
 Mordvinkina, A. I., 122, 1022  
 Moreira, S., 221  
 Mori, H., 411  
 Morinaga, T., 148  
 Morrow, E. B., 1120  
 Mudra, A., 103, 126, 129, 181, 699, 723,  
 801
- Muller, C. H., 1154  
 Muller, H. J., 2  
 Müller-Boehme, 172  
 Munroe, J. W., 621  
 Müntzing, A., 95, 107, 773  
 Murav'ev, P. A., 390  
 [Murav'ev, V. P.], 1075  
 Muraviev, *see* Murav'ev  
 Murphy, D. M., 1161  
 Myers, W. M., 153, 459-60, 464
- NAGAO, S., 454, 494  
 Nakajima, K., 148  
 Nakayama, K., 449, 1045  
 Nakorntap, A., 134  
 Nambiar, A. Kunhi Koran, *see* Kunhi  
 Koran Nambiar, A.  
 Nath, B., *see* Bhola Nath  
 Natividade, J. V., 208  
 Naumov, N. A., 713, p. 254, p. 322  
 Navarro, A. F., 875  
 Navaschin, *see* Navashin  
 Navashin, M. S., 354, 700  
 Nawaschin, *see* Navashin  
 Nawrocki, Z., 119  
 Near, R., 854  
 Neatby, K. W., 281  
 Nebel, B. R., 340, 358, 1095  
 Necati Turgay, S., 1064  
 Needham, J., p. 150  
 Negrul, A. M., 877  
 [Nesterenko, P. A.], 988, 1093  
 Newcombe, H. B., 794  
 Newman, L. H., 935  
 Newton, M., 10, 592, 742  
 Nielsen, E. L., 457  
 Nikitin, I. L., 988  
 Nilov, V. I., [1988], 1093  
 Nilow, W. J., *see* Nilov, V. I.  
 Nilsson, F., 527  
 Nilsson-Ehle, H., 209, 878, 883-4  
 [Nigovskii, N.], 1075  
 Nilsson-Leissner, G., 76  
 Nishiyama, I., 415  
 Nizenkov, N. P., 710  
 Noachovitch, G., 873  
 Noguti, Y., 825  
 Noll, A., 168  
 Noor Mohammad, 299  
 Norwood, J. W., 562  
 Nowell, W., 621  
 [Nye, G. W.], 621
- O'B. . . . . T. E. H., 56  
 Oescu, C. V., 749  
 Ogden, W. B., 830-1  
 Oka, H., 825  
 [Okanenko, A. S.], 1075  
 Okuma, K., 825  
 Olmo, H. P., 228, 550, 1130  
 Olson, P. J., 755  
 Olsson, P. A., 781  
 O'Mara, J. G., 1010  
 Opsomer, J.-E., 1042  
 Oraman, N., 876  
 Ordign, A., 1133  
 [Orlovskii, N. I.], 1074-5  
 Orlovsky, *see* Orlovskii  
 Osaka, S., 565  
 Osmanov, V. O., 852  
 Ostanin, S. N., 785  
 Ostendorf, F. W., 513  
 Oudot, G., 522, 1065

- PADDICK, M. E., 133  
 Pagel, W., p. 150  
 Painter, J. H., 1088  
 Pakhomova, V. P., 319  
 Pal, B. P., 647, 940  
 Palienko, V. I., 404  
 Palmova, E., 728  
 Pan, C. L., 743  
 Panasjuk, M. P., 1075  
 Panduranga Rao, V., 282  
 Pangalo, K. I., 246  
 Panos, D. A., 323  
 Panse, V. G., 931, 950  
 Park, M., 661  
 Parodi, L. R., 1014  
 Patankar, V. K., 147  
 Patchev, A. G., 537  
 Patel, N. M., 648  
 Patel, S. M., 767  
 Patel, Z. H., 22  
 Pathak, G. N., 607  
 Paul, W. R. C., 259  
 Pavlušin, *see* Pawluchin  
 Pawluchin, A. J., 1066  
 [Peat, J. E.], 621  
 Peebles, R. H., 1060  
 Peeling, B. A., 790, 905  
 Pellew, C., 662  
 Perucci, E., 816  
 [Peters, R. W.], 621  
 Peterson, R. F., 742, 1018  
 Peto, F. H., 938  
 Peto, H. B., 13  
 [Petojan, S. A.], 1075  
 Philosophova, *see* Filosofova  
 Piekarski, A., 481  
 Pierantoni, U., p. 251  
 Pierce, W. H., 677  
 Pierce, W. P., 471  
 Pincus, J. W., 668  
 Pires, D. R. V., 316  
 Pirovano, A., 326, 552–3, 1012  
 Pisarev, V. E., 408  
 Pittery, R., 791  
 Piunowsky, I. M., 789  
 Pjatnitskii, S. S., 880  
 Plotnikov, N. Ja., 377  
 Poddubnaja-Arnoldi, V., 106, 202–3,  
     396, 1092  
 Poddubnaya-Arnoldi, *see* Poddubnaja-  
     Arnoldi  
 Poggendorff, W. H., 615  
 Pojarkova, A. J., 534  
 Pokhil', I. F., 378, [1075]  
 Poljanskij, *see* Poljanskij  
 Poljanskij, V. I., 687  
 Ponnaiya, B. W. X., 24, 284  
 Pope, M. N., 439  
 Poperekov, M., 495  
 Popesco, C., 908  
 [Popova, A. A.], 1075  
 Popova, G. M., 842  
 Porte, W. S., 248, 574  
 Posnette, A. F., 646, [p. 322]  
 Postma, W., 180, 497  
 Potter, G. F., 1088  
 Pound, F. J., 963  
 Powers, L., 313, 330, 573  
 Pratt, A. M., 961  
 [Prentice, A. N.], 621  
 Price, J. R., 587  
 Pridham, J. T., 15, 16, 272, 602, 936  
 Prijamopol'skii, P. K., 320  
 Prjanišnikova, Z. D., 418  
 Propach, H., 557
- Przyborowski, J., 119  
 [Psareva, E. N.], 811  
 Pukhal'skii, A. V., 709  
 Pukhalsky, *see* Pukhal'skii  
 Puhr, L. F., 461  
 Purvis, O. N., 17  
 Pustovoit, E. S., 379
- QUINBY, J. R.**, 768
- RAMANUJAM, S., 618, 647  
 Randolph, L. F., 434, 761  
 Rands, R. D., 1067  
 Rangaswami Ayyangar, G. N., 23–6,  
     284, 944–5  
 Ranganatha Rao, V. N., 629  
 Rao, V. N. Ranganatha, *see* Ran-  
     ganatha Rao, V. N.  
 Rao, V. Panduranga, *see* Panduranga  
     Rao, V.  
 Raptopoulos, T., 652  
 Raw, A. R., 601  
 Reddick, D., 169  
 Reddy, T. Venkataramana, *see* Venka-  
     taramana Reddy, T.  
 Reed, C. A., 540  
 Reed, G. M., 1002  
 Reeves, R. G., 760  
 Reimers, F. E., 896  
 Reinhold, J., 561  
 Resende, F., 996  
 Riabov, *see* Rjabov  
 Richharia, R. H., 650, p. 65  
 Rietsema, C., 1159  
 Rietsema, I., 529  
 Riker, A. J., 560  
 Rjabov, I. N., [988], 1106  
 Rjazanov, K. D., 321  
 Robertson, D. W., 139, 614, 984  
 Rodrigues, A., 551  
 Roemer, T., 99  
 Roland, G., 334  
 Rollan, A. O., 429  
 Rosanova, *see* Rozanova  
 [Rose, M. F.], 621  
 Rosen, H. R., 417  
 Rozanova, M. A., 223–4  
 Ro'kov, M. I., 858  
 Rubtsov, *see* Rubzov  
 Rubzov, G. A., 213, 533  
 Rubzow, *see* Rubzov  
 Rudorf, W., 79  
 Ruggles Gates, R., *see* Gates, R. R.  
 Rundquist, E., 95  
 [Rusakov, L. F.], 713  
 [Ruston, D. F.], 621  
 Ruttle, M. L., 358, 998  
 Rybin, V. A., 198, 498, 576  
 Rybin, W. A., *see* Rybin, V. A.  
 Ryker, T. C., 455  
 Rzaev, M. M., 792  
 Rževkin, A. A., 1114
- S. . . . . , H. H., 960  
 Sadik, H. G., 299  
 Sadovnikov, G. T., 443  
 Sakai, K., 451  
 Salaman, R. N., 287  
 Salamatov, M. N., 325  
 Salamov, A. B., 756  
 Salmon, S. C., 666  
 Saltykovskii, A. I., 412, 746
- Saltykovskii, M. I., 423, 740  
 Saltykovskij, *see* Saltykovskii  
 Saltykovsky, *see* Saltykovskii  
 Salvo, C., 890  
 Šalygin, *see* Shalygin  
 Sampath, S., 933  
 Sando, W. J., 121  
 Sanguineti, M. E., 1025  
 Sansome, E. R., 93, 314  
 Sansome, F. W., 314, 597  
 Saprygina, E. S., 423, 740  
 Sapryguina, *see* Saprygina  
 [Sarana, M. O.], 811  
 Šardakov, *see* Shardakov  
 Sartoris, G. B., 1070  
 Sarup Singh, 623, 926  
 Satō, D., 689  
 Saunders, A. R., p. 317  
 Savelli, R., 829  
 Savitskii, M. S., 380  
 [Savitskii, V. F.], 1075  
 Savitsky, *see* Savitskii  
 Savitzky, *see* Savitskii  
 Sawhney, K., 31  
 Sawin, J. L., 919  
 Sax, K., 94, 333, 347  
 Schaal, L. A., 1058  
 Schaper, P., 171  
 Scharaschidze, G. I., 395  
 Schenck, G., 906  
 Scherz, W., 232  
 Scheu, H., 229  
 Schlumberger, 788  
 Schmalßfuss, H., 165  
 Schmöle, J. F., 200, 1091  
 Schmuck, *see* Shmuck  
 Schneider-Orelli, O., 1003  
 Schrader, F., 89, 343  
 Schreiner, E. J., 235, 554, 1135  
 Schwanitz, 324  
 Schwanitz, F., 692  
 Schwartz, M., 172  
 Schweizer, J., 814  
 Scott, G. W., 677  
 Scott-Moncrieff, R., 682  
 Sears, E. R., 388  
 Sebto, A. G., 518  
 Ségal, L., 549  
 [Šelekhov, N. N.], 1075  
 Selivanova, A. N., 900  
 [Sempolovskii, L. L.], 1075  
 Sengbusch, R. von, 778  
 Senn, H. A., 465  
 Šepeleva, *see* Shepeleva  
 Sergeev, V. Z., 381  
 Sessous, 516  
 Ševčík, T. N., 739  
 [Sevost'janov, S. P.], 1075  
 Shalucha, B., 331  
 Shalygin, I. N., 440  
 Shank, D. B., 425  
 Shardakov, V. S., 707  
 Sharp, C. C. T., 968  
 Shen, L.-Y., *see* Li-Ying Shen  
 Shepeleva, E. M., 416  
 [Shepherd, E. F. S.], p. 322  
 Sheppard, W. F., p. 250  
 Sherbakoff, C. D., 1053  
 Shimamura, T., 359  
 Shitikova-Roussakova, A. A., p. 322  
 Shkvarnikov, P. K., 993  
 Shmuck, A., 352, 695–6  
 Sidky, A. R., 684  
 Silant'ev, I. G., 678  
 Silow, R. A., 490, [621]

- Silva, P., 1082  
 Simmonds, J. H., 593  
 Simmonds, P. M., 14  
 Sims, H. J., 277  
 Singh, M. P., 932  
 Singh, R., 744  
 Singh, R. D., 283  
 Singh, S., *see* Sarup Singh  
 Singleton, W. R., 433, 758, 1026  
 Sinke, N., 691  
 Sinnott, E. W., 571  
 Sinskaja, E., 687  
 Sirks, M. J., 688  
 Sizova, M. A., 396, 398  
 Skovsted, A., 362  
 Skvorcov, S. N., 322  
 Slate, G. L., 1116  
 Sleesman, J. P., 483  
 Slugin, P. T., 580  
 Smirnov, V., 80  
 Smirnova, M. I., 462  
 Smith, E. G., 1060  
 [Smith, E. H. G.], p. 320  
 Smith, F. L., 250  
 Smith, G., 541  
 Smith, G. S., 113  
 Smith, H. H., 186  
 Smith, H. P., 797  
 Smith, K. M., p. 253  
 Šmuk, *see* Shmuck  
 Snelling, R. O., 1035  
 Snow, A. G. (jun.), 1131  
 Snyder, E., 1128  
 Snyder, L. H., p. 251  
 [Sokolova, N. F.], 1093  
 Sokol'skii, D. P., 727  
 Solly, N., 643  
 Sorokin, K. A., 400  
 Sosnin, S. V., 852  
 Soukup, V., 480  
 Sousa, L. de Oliveira Mendes da Costa e, 874  
 Sprague, H. B., 133  
 Sprague, T. A., 972  
 Srinivasachar, D., 655  
 Stadler, L. J., 994  
 Stakman, E. C., 414  
 Stanton, T. R., 413, 1023  
 Starkov, A. A., 381  
 Stebbins, G. L. (jun.), 91, 348, 660  
 Stefanovskii, *see* Stefanovsky  
 Stefanovsky, J. A., 123, 142  
 Stefanowski, *see* Stefanovsky  
 Steinbauer, C. E., 1112  
 [Stenhouse, A. S.], 621  
 Stepanov, P. A., 850  
 [Stepčenko, V. D.], 1075  
 Stephens, J. C., 768  
 Stephens, S. G., [621], 628  
 Stevens, H., 1037  
 Stevens, W. L., 264  
 Stevenson, F. J., 473, 479  
 Stevenson, G. C., 39, 294  
 Stino, K. R., 815  
 Stoa, T. E., 114  
 Stockdale, F., 262  
 Stockwell, P., 238  
 Stoffels, A., 667  
 Stoffels, E. H. J., 521  
 Stokes, I. E., 182  
 Stoletova, E. A., 747  
 Stout, A. B., 237, 1129  
 Straib, W., 116  
 Strampelli, N., 374  
 Straub, J., 693  
 Stubbe, H., 685  
 Sudnov, P. E., 389  
 Šul'ga, M. S., 402  
 Sullivan, J. T., 153  
 Sulyndin, A. F., 393  
 Summers, E. M., 1067  
 Suneson, C. A., 1016, 1038  
 Sutton, E., 5  
 Sutton, G. L., 274  
 Suzuki, S., 1007  
 Sveshnikova, I. N., 776  
 Svešníkova, *see* Svěšníkova  
 Swaine, J. M., 930  
 Swanson, C. O., p. 153  
 Sylvén, N., 878, 1132  
 [Syrovatskii, S. G.], 713
- TAGGART, W. G.**, 182  
 Takano, T., 454  
 Takahashi, M., 505  
 Takenaka, Y., 96  
 Takizawa, R., 1000  
 Tang, P. S., 698  
 Tatarintsev, A. S., 678  
 Tatarinzev, *see* Tatarintsev  
 Tatebe, T., 1142, 1155  
 Tavares, H., 492  
 Taylor, J. W., 102  
 Tchernaeiv, I., 84  
 Teik, G. L., 11, 595  
 Temple, C. E., 872  
 Terao, H., 151, 771  
 Ternovskii, *see* Ternovsky  
 Ternovskij, *see* Ternovsky  
 [Ternovsky, M. F.], 811  
 Thayer, J. W., 751  
 Thomas, K. M., 303  
 Thomas, P. T., 969-70  
 Thompson, H. C., p. 68  
 Thorpe, H. C., 594, 934  
 Tichonova, A. S., 531  
 Tidd, J. S., 444  
 Tiflova, A. M., 804  
 Tikhvinskaja, V. D., 507  
 Tinney, F. W., 1048  
 Tintner, G., p. 317  
 Tobbyš, J., 798  
 Tometorp, G., 140  
 Topuridze, E. M., 220  
 Torres, J. P., 219, 500  
 Torrie, J. H., 750  
 [Tothill, J. D.], 621  
 Toxopeus, H. J., 145  
 Trail, F., 918  
 Traub, H. P., 222  
 Trebušenko, *see* Trebuschenko  
 Trebuschenko, P. D., 207  
 Tros'ko, I. K., 864  
 [Trotman, A. E.], p. 320  
 Trotter, A., 821  
 Trouvelot, B., 172  
 Tschermak-Seysenegg, E. von, 387  
 Tubbs, F. R., 640  
 Tucker, C. M., 903  
 Turner, W. I., p. 252  
 Turrill, W. B., 2, 263  
 Tussing, E. B., 474  
 Tyler, L. J., 367  
 Tysdal, H. M., 1051
- UBER, F. M.**, 435  
 Ufer, M., 777  
 Uichanco, L. B., 1068
- Úlkümen, L., 1096  
 Undenäs, 748
- VAITZMAN, L.**, p. 67  
 [Vakhrušev, E. T.], 1075  
 Vakulin, D. J., 844  
 Valadares, M., 341  
 Vandenuput, R., p. 153  
 Vasconcellos, J. de Carvalho e, 447, 875, 1015  
 [Vasil'ev, L. V.], 1075  
 Vavilov, N. I., [713], 988  
 Vears, C. K., 15, 272, 602, 936  
 Večeslova, *see* Vecheslova  
 Vecheslova, E. M., 123  
 Veh, R. von, 212  
 Venkataramana Reddy, T., 25, 944-5  
 Venkatraman, T. S., 36  
 [Verbenko, G. V.], 988  
 Vijayaraghavan, C., 282  
 Vijayasardhy, M., 297  
 Vik, K., 120  
 Villars, R., 346  
 Virgin, W. J., 904  
 Voelcker, O. J., 46  
 Vogel, O. A., 734  
 Vollenma, J. S., 188  
 Voss, J., 780  
 Vries, L. de, *see* De Vries, L.  
 Vydrin, V. I., 846
- WADDELL, W. H.**, 941  
 Waddington, C. H., 588, p. 318  
 Wade, B. L., 911  
 Wahlen, F. T., 673  
 Waldron, L. R., 115  
 Walker, G. W., 274  
 Walker, J. C., p. 155  
 Walker, M. N., 1146  
 Wallis, W. A., 71  
 Ware, G. W., 1145  
 Warmke, H. E., 508  
 Watanabe, K., 485  
 Waterhouse, W. L., 271, 274, 939  
 Watkins, A. E., 275, 937  
 Watts, G. S., p. 68  
 Watts, R. L., p. 68  
 Webber, H. J., 861  
 Webster, C. C., 305  
 Weetman, L. M., 417  
 Weidman, R. H., 885  
 Weimer, J. L., 920  
 Weindling, R., 368  
 Weischsel, G., 701  
 Wellensiek, S. J., 81, 97, 834  
 Weller, D. M., 1069  
 Wellington, R., 1126  
 Wellman, F. L., 248, 370  
 Welsh, J. N., 278  
 Wenholz, H., 15, 65, 272, 276, 602, 936  
 [West, J.], p. 320, p. 321  
 Wester, R. E., 1160  
 Wettstein, W. von, 557, 1138  
 Whaley, W. G., 83, 571, 1153  
 Whitaker, T. W., 1144  
 Whiteman, E. F., 786  
 Whitney, L. D., 505  
 Wiebe, G. A., 139  
 [Wight, N. M.], 621  
 Wight, W., 641, 1101  
 Wiidakas, W., 132  
 Wilczynski, J., 82  
 Williams, C. H. B., 35

- [Williams, T. L.], p. 321  
Willis, J. C., 265  
Winge, O., 711  
Winkler, H., 708  
Winter, F. L., 677  
Wipf, L., 155, 466  
Wishart, J., p. 150  
Wong, Cheong-Yin, 1107  
Wood, M. N., 542  
[Wright, J.], p. 322  
Wulff, H. D., 690
- YAMADA, T., 150  
Yamaguti, Y., 146, 1143
- Yamamoto, Y., 366, 1001  
Yasukawa, D., 1043  
York, H. A., 914, 1162  
Youden, W. J., 981  
Young, H. E., 657  
Young, P. A., 902  
Yumen, T., 148
- [ZADLER, V. V.], 1075  
[Zagorodnjuk, Ja. F.], 1075  
Zagorodnyi, G. P., 1086  
Zagorodskikh, P., 892  
Zaikovskaja, N. E., 159, [1075]
- Zapparoli, T. V., 127, 1031  
Zaumeyer, W. J., 911  
Zayas y Muñoz, F. de, 680  
Žebrak, *see* Zhebrak  
Zhebrak, A. R., 391–2, 792  
[Zelenskii, S. S.], 1075  
Žogolev, A. M., 917  
[Zolotnitskii, V. A.], 713  
Zorin, F. M., 537  
Zosimovič, *see* Zossimovich  
Zossimovich, V. P., 158, 160, [1075]  
Zubarev, A. K., 713  
Zubin, J., 67  
[Žukov, N. I.], 811

# KEY TO SUBJECT INDEX

- A**BACÁ, 633.526.1  
**A**berations  
 chromosome, 576.356  
*see also* mutation, 575.24  
**A**bies, 634.975  
**A**nomalous growth, 581.143.32  
**A**butilon, 633.524.34  
**A**cacia, 633.879  
**A**cclimatization, 631.525  
**A**cenaphthene  
 influence of, 581.04  
**A**cer, 634.972.2  
**A**chras, 634.431  
**A**ctinidia, 634.65  
**A**ctinomycetes, 632.3  
**A**daptation, 575.3  
**A**egilops, 633.11 *Aegilops*  
**A**esculus, 634.972.4  
**A**ffinity  
 in pollination, 581.162.5  
**A**gave, 633.526.2  
**A**ging  
 influence of, 581.01  
**A**griculture, 63  
**A**gronomy, 631  
**A**gropyron, 633.289  
**A**grostideae, 633.285  
**A**grostis, 633.23  
**A**lbinism  
 inheritance of, 575.061.634  
*see also* chlorophyll deficiency  
**A**lbugo, 632.411.4  
**A**leurites, 633.854.56  
**A**lfalfa, 633.31  
**A**lkaloids, 581.6  
**A**llelomorphs, 575.11  
 multiple, 575.113.3  
**A**llium  
*Cepa*, 635.25  
 other species, 635.26  
**A**lmond, 634.551  
**A**loe, 633.526.2  
**A**lopecurus, 633.285  
**A**lpine climate, 551.563  
**A**lternaria, 632.484  
**A**maranthus, 633.9  
 for starch, 633.689  
**A**melancholy, 634.741  
**A**morpophallus, 633.88  
**A**mpelography, 634.83  
**A**mphidiploids, 575.129  
*see also* polyploidy, 576.356.5  
**A**mygdalus, *see* peach, almond  
**A**nacardium, 634.573  
**A**nalysis, *see* chemical analysis, genic analysis, segregation, field experiments, statistics  
**A**nanas, 634.774  
**A**ndropogon, 633.282  
 as cereal, 633.174  
**A**ndropogonae, 633.282  
**A**ngiosperms, 585.1  
**A**nal pests  
 insects, 632.7  
 others, 632.6  
**A**niseed, 635.75  
**A**nomalies  
 of growth, 581.143.32  
 of reduction division, 576.356  
*see also* mutation, 575.24
- A**nonaceous fruits, 634.41  
**A**nthers, 581.466  
*see also* pollination, 581.162.3  
**A**nthesis, 581.162.3  
*Anthonomus*, 632.7  
*Anthoxanthum*, 633.284  
**A**nthracnose, 632.483  
*Anthyllis*, 633.362  
**A**pbrids, 632.7  
*Apium*, 635.53  
*Apocynum*, 633.512  
**A**pogamy, 581.163  
**A**popomixis, 581.163  
**A**pparatus, *see* technique, 578.08  
**A**ple, 634.11  
 canker, 632.421.9  
 scab, 632.421.9  
**A**pplied science, 6  
**A**pricot, 634.21  
**A**rable soils, 631.4  
*Arachis*, 634.58  
**A**rboriculture, 634  
*Archegoniatae*, 583.1  
*Armeniaca*, 634.21  
**A**romatic plants, 633.8  
*see also* 635.7  
*Arrhenatherum*, 633.265  
**A**rrowing, *see* flowering  
**A**rtichoke  
 Jerusalem, 635.24  
*Artocarpus*, 634.39  
*Ascochyta*, 632.482  
**A**scomycetes, 632.42  
**A**sexual reproduction, 581.163  
*see also* vegetative reproduction  
**A**sh  
 chemical analysis, 581.192  
*Fraxinus*, 634.973  
*Sorbus*, 634.973  
*Ashbya*, 632.422.3  
*Asimina*, 634.418  
*Asparagus*, 635.31  
*Aspergillus*, 632.421.2  
**A**ssimilation, 581.13  
*Asynapsis*, 576.356  
*Asyndesis*, 576.356  
*Atavism*, 575.114.3  
*Aubergine*, 635.646  
*Auricle*, 581.49  
**A**uthenticity  
 of seeds, 631.521.5  
**A**uxins, 577.17  
*Avena*, 633.13  
*Aveneae*, 633.286  
*Avocado*, 634.653  
*Awns*, 581.46
- B**ACTERIA  
 diseases due to, 632.3  
**B**aking quality, 664.641.016  
**B**alance  
 chromosome, 576.312.37  
**B**amboo, 633.289  
*Bambusa*, 633.289  
*Bambuseae*, 633.289  
*Banana*, 634.771  
*Barbs*, *see* awns, 581.46  
*Barley*, 633.16
- B**asidiomycetes  
 general, 632.44  
 specific fungi, 632.45  
*Basisporium*, 632.484  
**B**eans, 635.65  
**B**eards, 581.46  
**B**eech, 634.972.5  
**B**eet, 633.41  
 forage, 633.416  
 sugar, 633.63  
**B**eetles, 632.7  
**B**ent grass, 633.23  
**B**erries, 581.47  
*see also* bush fruits, 634.7  
**B**erseem, 633.329  
*B*eta, 633.41  
 sugar beet, 633.63  
**B**etel vine, 633.841  
*Betula*, 634.972.6  
**B**ibliography, 016  
**B**ilberry, 634.73  
**B**iological technique, 578  
**B**iology, 57  
 of flowering, 581.162  
**B**iometrics, 57.087.1  
**B**irch, 634.972.6  
**B**lack locust, 634.973  
**B**lackberry, 634.715  
**B**lackcurrant, 634.723  
**B**last, 632.8  
*see also* *Piricularia*, 632.484  
**B**"Blaattröte," 632.19  
**B**light, 632  
 blossom, 632.7  
 chestnut, 632.421.9  
 early, 632.484  
 potato, 632.411.4  
 seedling blight in maize, 632.484  
**B**lindness (in oats), 632.8  
*Blissus*, 632.7  
**B**looming, *see* flowering  
**B**lueberry, 634.73  
*Boehmeria*, 633.525.1  
**B**oll weevil, 632.7  
**B**olting, 581.143.26  
*Bombax*, 633.513  
**B**orecole, 635.347  
**B**orer, 632.7  
**B**otanists, 58:007  
**B**otany, 58  
 systematic, 582  
*Botrytis*, 632.484  
**B**ottle gourd, 635.627  
**B**oysenberry, 634.714  
*Brachysporium*, 632.484  
**B**rambles, 634.71  
**B**ranches, 581.44  
*Brassica*, 633.42  
 cabbage group, 635.3  
 mustard, 635.44  
 oil seeds, 633.853.49  
**B**read-fruit, 634.39  
**B**readth  
 inheritance of, 575–181.12  
**B**reeding, 575  
*see also* individual crops technique, 578.08:575  
*Bremia*, 632.411.4  
*Brinjal*, 635.646  
**B**road bean, 635.651

- Broccoli, 635.356  
 Brome grass, 633.262  
 Bromeliaceae  
     for fibre, 633.526.5  
*Bromus*, 633.262  
 Broom corn, 633.174  
 Broom-rape, 632.5  
*Bruchus*, 632.7  
 Brusone, 632.8  
     see also *Piricularia*, 632.484  
 Brussels sprouts, 635.36  
 Buckwheat, 633.12  
 Bud sports, 575.247  
 Bunt, 632.451.3  
 Bush fruits, 634.7  
 Bush nut, 634.57  
*Butyrospermum*, 633.855.357.4  
 By-products, 631.57  
*Byturus*, 632.7  
  
**CABBAGE**, 635.34  
 Cacao, 633.74  
 Cages, 578.08  
*Cajanus*, 635.659  
*Calandria*, 632.7  
*Camelina*, 632.51  
*Camellia*, 633.72  
 Camphor, 633.956  
 Cananga tree, 633.859  
 Cane grub, 632.7  
 Canker  
     apple (*Nectria*), 632.421.9  
     peach (*Valsa*), 632.421.9  
*Cannabis*, 633.522  
 Cantala, 633.526.24  
 Cantaloupe, 635.611  
 Caoutchouc, 633.912  
*Capsicum*, 633.842  
*Caragana*, 633.879  
 Cardamom, 633.83  
*Carica*, 634.651  
 Carob, 634.462  
 Carpelloid, 581.466  
 Carpels, 581.466  
 Carrot, 635.13  
*Carthamus*, 633.854.797  
*Carya*, 634.52  
 Cashew nut, 634.573  
 Cassava, 633.682  
*Cassia*, 633.88  
*Castanea*, 634.531  
     timber, 634.972.4  
 Castor oil, 633.853.55  
 Catenation, 576.356  
 Cauliflower, 635.35  
 Cecidology, 632.2  
*Cecidomyiidae*, 632.7  
*Ceiba*, 633.513  
 Celebrities, 007  
 Celery, 635.53  
 Cell, 576.3  
     division, 576.35  
     egg cell, 581.351.1  
     membrane, 576.314  
     motility of, 576.32  
     physiology of, 576.34  
     reproduction of, 576.35  
 Centrifuging, 581.039  
 Centromere, 576.312.381  
 Centrosomes, 576.313  
*Cephalosporium*, 632.484  
*Cerasus*, 634.23/24  
*Ceratonia*, 634.462  
*Ceratostomella*, 632.421.9  
*Ceratovacuna*, 632.7  
  
*Cercospora*, 632.484  
*Cercosporella*, 632.484  
 Cereals, 633.1  
     for forage, 633.25  
 Characters  
     inheritance of, 575.1  
     quantitative, inheritance of, 575–18  
     external, inheritance of, 575.061  
 Chemistry  
     biological, 577.1  
     industrial, 66  
     plant, 581.192  
     soil, 631.41  
     see also chemical composition of the nucleus, 576.312.2  
 Chemical agents, 581.04  
     see also auxins, hormones, 577.17  
     phenol coloration of grain, 578.088  
 Chemical analysis, 581.192  
*Chenopodiaceae*, 633.41  
*Cherimoyer*, 634.413  
*Cherry*, 634.23  
     wild, 634.24  
 Chestnut  
     blight, 632.421.9  
     nuts, 634.53  
     timber, 634.972.4  
*Chiasmata*, 576.354.46  
*Chickpea*, 635.657  
*Chico*, 634.431  
*Chicory*, 635.54  
     used in coffee, 633.78  
*Chillies*, 633.842  
*Chimaeras*, 575.255  
*China jute*, 633.524.34  
*Chinch bug*, 632.7  
*Chive*, 635.26  
*Chlorophyll*  
     deficiency, inheritance of, 575.061.633  
     see also albinism, chlorosis  
*Chloroplasts*, 581.174  
*Chlorops*, 632.7  
*Chlorosis*, 632.191  
*Chromatids*, 576.354.46  
*Chromatin*, 576.312.31  
*Chromatophores*, 581.174  
*Chromosome*, 576.312.32  
     inert regions, 576.312.341  
     mapping, 575.116.4  
     mechanics, 576.312.381  
     number, 576.312.35  
     pairing, 576.354.46  
     rings, 576.356.2  
     sex chromosomes, 576.312.332  
     size and form, 576.312.34  
     structure, 576.312.34  
     see also polyploidy  
*Chrysanthemum* as insecticide, 632.951.1  
*Chytridiinae*, 632.412.5  
*Cicer*, 635.657  
*Cichorium*  
     *Endivia*, 635.55  
     *Intybus*, 635.54  
     used in coffee, 633.78  
*Cinchona*, 633.885.1  
 Circulation, 581.11  
*Citron*, 634.33  
*Citrullus*, 635.615  
*Citrus*, 634.3  
*Cladosporium*, 632.484  
 Classification  
     bibliographical, 025.4  
     botanical, 582  
*Clasterosporium*, 632.484  
*Claviceps*, 632.421.9

- Cross-pollination, 581.162.32  
 Crossing, *see* hybridization, 575.12  
 Crossing-over, 575.116.1  
*Crotalaria*  
 for fibres, 633.524.1  
 for forage, 633.372  
 Cryptogamic botany, 582.1  
 Cryptogenometry, 576.356.1  
 Cube, 632.951.1  
 Cucumber, 635.63  
*Cucumis*, 635.6  
*Cucurbita*, 635.62  
 Cucurbits, 635.61/3  
 Culture methods, 581.09  
 Cumin, 633.811.682  
 Cumulative genes, 575.113.42  
*Cupressus*, 634.975  
 Curly top, 632.8  
 Currants  
     *Ribes*, 634.72  
     *Vitis*, 634.873.4  
 Custard apple, 634.41  
 Cuttings, 581.165.72  
 Cutworm, 632.7  
*Cydonia*, 634.14  
*Cymbopogon*, 633.812.42  
*Cynanchum*, 633.913  
*Cyphomandra*, 634.776.1  
 Cypress, 634.975  
 Cytology, 576.3  
 Cytomixis, 576.312.6  
 Cytoplasm, 576.311  
     cytoplasmic inheritance, 575.182  
*Cystopus*, 632.411.4  
*Cytospora*, 632.482
- Dactylis*, 633.22  
 Date, 634.62  
*Daucus*, 635.13  
 Day  
     length of, 581.143.26.035.1  
 Death, 581.149  
 Deficiency  
     chlorophyll, inheritance of, 575.061.633  
     *see also* albinism, chlorosis, deletion  
 Degeneration, 575.7  
     of races, 575.74  
     *see also* 581.148  
 Dehydration  
     *see* microscopic technique, 578.65  
 Deletion  
     chromosomal, 576.356.2  
 Density  
     inheritance of, 575.061.2  
*Derris*, 632.951.1  
 Design  
     of field experiments, 631.421  
     of colour, inheritance of, 575.061.6  
 Determination  
     experimental, 578.08  
*Deuterophoma*, 632.482  
 Development  
     effects, 581.01  
     physiology of, 581.14  
 Deviation  
     standard, *see* statistics, 519.24  
*Dewberry*, 634.717  
*Diabrotica*, 632.7  
*Diaporthe*, 632.421.9  
*Diatraea*, 632.7  
 Dictionaries, 030.8  
*Didymella*, 632.421.9  
 Differentiation, 581.143.24
- Dimensions  
     inheritance of, 575–181  
*Dioscorea*, 633.685  
*Diospyros*, 634.451  
*Diplodia*, 632.482  
 Diploidy, 576.356.5  
*Dipsacus*, 633.9  
*Dipteryx*, 633.85  
 Directories, 058  
 Disease, 632  
     resistant varieties, 631.521.6  
 Distribution  
     geographical, 581.9  
 Division  
     cell, 576.35  
*Dolichos*, 635.654  
 Domestication, 576.16  
 Dominance, 575.115  
 Dormancy, 581.143.26  
 Downy mildew, 632.411.4  
 Drought, 632.112  
 Drying oils, 633.854  
 Dryness  
     effects of, 581.032.3  
     *see also* drought, 632.112  
 Duplicate genes, 575.113.4  
 Durra, 633.174  
 Dutch elm disease, 632.421.9  
 Dwarfing  
     inheritance of, 575–181.13
- EAR, 581.46  
 Earing, 581.145.1  
 Earliness  
     inheritance of, 575–793  
 Early blight, 632.484  
 Earworm, 632.7  
*Echinochloa*, 633.171  
 Ecology, 581.5  
 Economic  
     botany, 581.6  
     plants, 633  
 Ecotypes, 576.16  
 Eddo, 633.689  
 Eelworm, 632.6  
 Egg cell, 581.351.1  
 Egg plant, 635.646  
*Elaeis*, 633.855.34  
 Electric current, 537.3  
 Electric discharges, 537.5  
 Electricity  
     influence of, in botany, 581.037  
 Electro-magnetism, 538  
     influence of, in botany, 581.037  
*Elettaria*, 633.83  
*Eleusine*, 633.171  
*Elm*, 634.972.8  
     disease, 632.421.9  
*Elsinoë*, 632.422.1  
*Elymus*, 633.289  
 Embryo, 581.481  
 Embryo sac, 581.331.1  
 Embryology, 581.3  
*Empoasca*, 632.7  
 Encyclopaedias, 03  
 Endive, 635.55  
*Endomyces*, 632.422.2  
 Endosperm, 581.483  
     development of, 581.141  
*Endothia*, 632.421.9  
 Ensilage, 631.563.5  
 Environment  
     external, 581.02  
     internal, 581.01  
 Enzymes, 577.15
- Epistasis, 575.113.36  
*Epitrix*, 632.7  
*Eragrostis*, 633.288  
     *Teff*, 633.19  
*Erianthus*, 633.61  
 Error  
     in field experiments, 631.421  
     calculation of, 519.24  
*Eruca*, 633.853.48  
*Erysiphe*, 632.421.1  
 Essential oil plants, 633.8  
 Ether  
     plants producing, 633.88.11.17  
*Eubasidii*, 632.47  
*Eucalyptus*, 634.973  
*Euchlaena*, *see under* maize, 633.15  
*Eugenia*, 634.42  
 Eugenics, 575.191  
*Euphorbia*, 633.854.559  
     for rubber, 633.912  
 Evolution, 576.12  
*Exoascus*, 632.422.1  
 Exotic species  
     introduction of, 631.524.2  
 Experiments  
     technique, 578.08  
     field, 631.421  
     *see also* statistics, crop tests
- External  
     characters, inheritance of, 575.061  
     influences, in botany, 581.02  
 Eyespot disease, 632.484
- FACTORIAL ANALYSIS, 575.11  
 Factors, *see* genes  
*Fagopyrum*, 633.12  
*Fagus*, 634.972.5  
 Fasciation, 581.143.32  
 Fatuoids, 633.13:575.242  
*Feijoa*, 634.42  
 Female, *see* sex  
     sterility, 581.162.51  
 Fertility, 581.162.5  
 Fertilization  
     cytology of, 576.37  
     *see also* reproduction  
*Ferula*, 633.689  
 Fescue, 633.264  
*Festuca*, 633.264  
 Festuceae, 633.288  
 Fibre  
     plants, 633.5  
     quality, 581.6  
     *see also* hairs  
*Ficus*, 634.37  
 Field experiments, 631.421  
     *see also* statistics, crop tests  
 Fig, 634.37  
 Filbert, 634.54  
 Finger-and-toe, 632.412.5  
 Fir, 634.975  
 Fireblight, 632.3  
 Flag smut, 632.451.3  
 Flax, 633.52  
     New Zealand, 633.526.41  
     *see also* linseed, 633.854.54  
 Floral biology, 581.162  
 Floras, 581.9  
 Floriculture, 635.9  
 Flour, 664.641  
 Flower, 581.46  
     development, 581.145.1  
     modification of parts, 581.466  
     *see also* floriculture, 635.9

- Flowering, 581.145.1  
     biology of, 581.162  
 Fluorescence, 535.371  
 Flies, 632.7  
*Fomes*, 632.472.3  
 Forage  
     beet, 633.416  
     plants, 633.2/3  
 Forest  
     products, 634.98  
     trees, 634.97  
 Forestry, 634.9  
 Form  
     chromosome, 576.312.34  
     inheritance of, 575.061.1  
 Forms  
     physiological, 576.16  
*Fortunella*, 634.324  
 Foxtail grass, 633.285  
*Fragaria*, 634.75  
*Fraxinus*, 634.973  
 French bean, 635.652  
 Frit fly, 632.7  
 Frog-hopper, 632.7  
 Frost  
     damage due to, 632.111  
 Fruit, 581.47  
     development, 581.145.2  
     crops, 634  
     as vegetables, 635.6  
 Fruiting, 581.145.2  
 Fungi  
     diseases due to, 632.4  
 Fungi imperfecti, 632.48  
 Fungous diseases, 632.4  
*Fusarium*, 632.484  
*Fusisporium*, 632.484
- GALLS**, 632.2  
 Garlic, 635.26  
 Gemini, 576.354.4  
 Genes, 575.113  
     mutable, 575.246  
     nature of, 575.17  
     see also segregation  
 Genealogy, 575.19  
 Generalities  
     of pure science, 5:001  
 Geneticists, 007:575.1  
 Genetics, 575.1  
 Genic analysis, 575.11  
 Genus, 576.16  
     intergeneric hybridization, 575.127.5  
 Geography  
     plant, 581.9  
     see also plant introduction, 631.524  
 Geology, 55  
 Geranium, 633.812.622.2  
 Germination, 581.142  
*Gibberella*, 632.421.9  
 Ginger, 633.825  
 Glands, 581.49  
*Gloeosporium*, 632.483  
*Glomerella*, 632.421.9  
 Glumes, 581.46  
 Gluten, 664.641.016  
*Glycine*, 635.655  
*Gnomonia*, 632.421.9  
 Gooseberry, 634.725  
*Gossypium*, 633.51  
 Gourds, 635.61/62  
 Graft hybrids, 575.257  
 Grafting, 581.165.71
- Grain, 581.48  
     baking quality, 664.641.016  
     weevil, 632.7  
 Gram (*Cicer*), 635.657  
     horse (*Dolichos*), 635.654  
 Gramineae, 585.421  
     see also cereals, forage grasses  
 Grapefruit, 634.323  
 Grapes, 634.835  
*Graphium uini*, see *Ceratostomella*  
*Grapholitha*, 632.7  
 Grasses  
     forage, 633.2  
 Grasshoppers, 632.7  
 Gravity  
     effect of, 581.031  
 Grey spot disease, 632.19  
 Groundnut, 634.58  
 Growth, 581.143  
     regulating substances, 577.17  
*Guarana*, 333.79  
 Guava, 634.42  
 Guayule, 633.913  
*Guignardia*, 632.421.9  
 Guinea corn, 633.174  
*Guizotia*, 633.854  
 Gumming  
     in sugar cane, 632.3  
 Gums, 633.93  
 Gutta percha, 633.917  
 Gymnosperms, 634.975  
*Gymnosporangium*, 632.452
- HABIT**  
     inheritance of, 575.061.1  
     perennial, 581.143.26  
 Hail  
     resistance to, 632.13  
 Hairs, 581.49  
     see also texture, inheritance of  
 Haplodity, 576.356.52  
 Hardiness, 632.111  
 Hardwood trees, 634.976.22  
 Harvesting, 631.556  
*Haynaldia*, 633.289  
 Hazel, 634.54  
 Heading, see flowering, 581.145.1  
 Heat  
     damage due to, 632.112  
     effects of, 581.036.1  
 Height  
     inheritance of, 575–181.13  
*Helianthus*  
     *annuus*, 633.854.78  
     *tuberosus*, 635.24  
*Heliothis*, 632.7  
*Helminthosporium*, 632.484  
 Hemibasidi, 632.45  
*Hemileia*, 632.452  
 Hemlock (*Tsuga*), 634.975  
 Hemp, 633.522  
     Manila, 633.526.1  
     New Zealand, 633.526.41  
 Herbs  
     aromatic, 633.812  
     culinary, 635.7  
     medicinal, 633.88  
 Heredity, 575  
 Hermaphroditism, 577.83  
 Hessian fly, 632.7  
 Heterochromatin, 576.312.341  
*Heterodera*, 632.6  
 Heteroploidy, 576.356.5  
 Heterosis, 575.125  
     see also inbreeding, 575.14
- Heterostyly, 581.466  
 Heterothallism, 577.8  
     see also hybridization, 575.12  
 Heterozygosis, 575.123  
*Hevea*, 633.912  
*Hibiscus*  
     *esculentus*, 635.648  
     *Sabdariffa*, 633.524.35  
*Hippophaë*, 634.743  
 Histology, 581.8  
 Holly, 634.973  
 Homozygosis, 575.143  
 Hops, 633.79  
 Hordeac, 633.289  
*Hordeum*, 633.16  
 Hormones, 577.17  
 Horse chestnut, 634.972.4  
 Horticulture, 635  
*Hovenia*, 634.661  
 Hulls, 581.48  
 Humidity  
     influence of, 581.032  
     see also drought, 632.112  
*Humulus*, 633.79  
 Husk, 581.48  
 Hybridization, 575.12  
     intergeneric, 575.127.5  
     interspecific, 575.127.2  
     intravarietal, 575.12; 575.148  
     see also pollination, 581.162.3  
 Hybrids, 575.12  
     graft, 575.257  
     true-breeding, 575.129  
 Hybrid vigour, 575.125  
 Hydrolysis, 581.198  
*Hymenomycetinae*, 632.472.3  
*Hyphomycetales*, 632.484  
*Hypomyces*, 632.421.9  
*Hysteriaceae*, 632.412.5
- IDENTIFICATION OF VARIETIES**, 578.088  
*Idiocerus*, 632.7  
 Idograms, 576.312.34  
 Iles-iles, 633.88  
*Ilex*  
     *aquifolium*, 634.973  
     *paraguensis*, 633.77  
 Immunity  
     of plants to disease, 631.521.6  
 Inbreeding, 575.14  
     see also heterosis, 575.125  
 Incompatibility, 581.162.5  
 Indigenous races, 631.524  
 Induced mutations, 575.243  
 Inert regions of the chromosome, 576.312.341  
 Inflorescence, 581.48  
 Inheritance, 575  
     see also colour, size, etc.  
 Inhibiting genes, 575.113.6  
 Insect pests, 632.7  
 Insecticides, 632.951.1  
 Institutes, 061.6  
 Interchange  
     segmental, 576.356.2  
 Interference, 575.116.1  
 Interfertility, 581.162.5  
 Intergeneric hybridization, 575.127.5  
 Intersexes, 577.8  
 Interspecific hybridization, 575.127.2  
 Intersterility, 581.162.5  
 Intravarietal crossing, see hybrids, pure lines  
 Introduction  
     of species, 631.524

- Inversion  
chromosomal, 576.356.2
- Ionization, 581.037
- Ipomoea*, 633.492
- Irradiation  
general studies, 537.5  
*see also* rays
- Irrigation, 631.67
- Irritability, 581.18
- JAPANESE CLOVER, 633.364
- Japanese persimmon, 634.451
- Jarozivation, 581.143.26.03
- Jassid, 632.7
- Jerusalem artichoke, 635.24
- Juglans*, 634.51
- Jujube, 634.662
- Juneberry, 634.741
- Jute, 633.523  
China, 633.524.34
- KAFFIR CORN, 633.174
- Kaki, 634.451
- Kale, 635.347
- Kapok, 633.513
- Karyology, 576.312
- Karyotype, 576.312.34
- Keeping quality, 581.6
- Kernel, 581.48
- Kidney bean, 635.652
- Kinetochore, 576.312.381
- Kohl-rabi, 633.425
- Kok-saghyz, 633.913
- Kola, 633.76
- Kumquat, 634.324
- LABORATORY EXPERIMENTS, 578.08
- Lac-bearing trees, 667.211.13
- Lactuca*, 635.52
- Lady's fingers, 635.648
- Lagenaria*, 635.627
- Lallemandia*, 633.854
- Land races, 631.524
- Larch, 634.975
- Larix*, 634.975
- Lateness  
inheritance of, 575."793"
- Latex, 581.13
- Lathyrus*, 633.378
- Lavandula*, 633.812
- Lavender, 633.812
- Leaf, 581.45
- Leaf disease (coffee), 632.452
- Leaf hopper, 632.7
- Leaf mould  
of tomato, 632.484
- Leek, 635.26
- Legumes, 635.65
- Leguminous  
forage plants, 633.3  
fruits, 634.46  
*see also* beans, peas, etc.
- Lemma, 581.46
- Lemon, 634.334
- Length  
inheritance of, 575-181.12  
of day, 581.143.26.035.1  
of lint, 581.6
- Lens*, 635.658
- Lenticels, 581.49
- Lentil, 635.658
- Lepidium*, 635.563
- Lepidoderma*, 632.7
- Leptinotarsa*, 632.7
- Leptocorisa*, 632.7
- Leptosphaeria*, 632.421.9
- Lespedeza*, 633.364
- Lethal genes, 575.113.7
- Lettuce, 635.52  
brown blight, 632.8
- Leucostoma*, 632.421.9
- Libraries, 02
- Light  
influence of, 581.035  
use of artificial, 578.082  
*see also* photoperiodism, rays
- Ligule, 581.49
- Lima beans, 635.653
- Lime  
(*Tilia*), 634.972.7  
(*Citrus*), 634.337
- Lines, 576.16  
pure, 575.148
- Linkage, 575.116.1  
sex, 575.116.7
- Linseed, 633.854.54  
*see also* flax, 633.52
- Lint  
quality, 581.6  
*see also* hairs, 581.49
- Linum*  
(flax), 633.52  
(linseed), 633.854.54
- Lisea*, 632.421.9
- Literature, 016
- Living matter  
reproduction of, 577.9
- Local varieties  
development of, 631.524
- Locust, 632.7
- Lodging, 632.183
- Loganberry, 634.714
- Lolium*, 633.263
- Lonchocarpus*, 632.951.1
- Longevity, 581.149
- Lophodermium*, 632.421.5
- Lucerne, 633.31
- Luffa*, 633.528.2
- Lupin, 633.367
- Lupinus*, 633.367
- Lycopersicon*, 635.64
- Macadamia*, 634.57
- Macrophomina*, 632.485
- Macrosporium*, 632.484
- Magnetism, 538
- Maize, 633.15  
sweet, 635.67
- Male, *see* sex, 577.8  
sterility, 581.162.51
- Malting quality, 581.6
- Malvaceous fibres, 633.524.3
- Malvaviscus*, 633.524.3
- Mandarin, 634.322
- Mangel, 633.416
- Mangifera*, 634.441
- Mango, 634.441
- Mangold, 633.416
- Manihot*, 633.682
- Manila hemp, 633.526.1
- Manioc, 633.682
- Manuring, 631.8
- Maple, 634.972.2
- Marasmius*, 632.472.3
- Marjoram, 635.71
- Marrow, 635.62
- Marrow stem kale, 635.347
- Maté, 633.77
- Maternal influence, 575.182
- Mathematics, 51
- Matrocliny, 575.182
- Maturation of germ cells, 576.354.53
- Meadow foxtail, 633.285
- Meadow grass, 633.21
- Means  
*see* statistics, 519.24
- Measurement, 578.08-
- Mechanical influences, 581.03
- Medicago*, 633.31
- Medicinal plants, 633.88
- Medlar, 634.15
- Meiosis, 576.354.4
- Melanconiales, 632.483
- Melanospora*, 632.421.9
- Melilotus*, 633.366
- Melon, 635.61
- Melon pear, 635.6
- Mendelian factors, *see* genes
- Mendelism, 575.1
- Mentha*, 635.72
- Mespilus*, 634.15
- Metaxenia, 575.183
- Meteorological effects in botany, 581.05  
*see also* temperature, influence of
- Meteorology, 551.5
- Microscopic technique, 578.6
- Midge  
wheat, 632.7
- Mildew  
downy, 632.411.4  
powdery, 632.421.1
- Millet, 633.171  
Great millet, 633.174
- Milling quality, 664.641.016
- Milo, 633.174
- Mint, 635.72
- Mirabilis*, 633.88
- Mitosis, 576.353
- Mixed sowings, 631.962.4
- Modifications, 575.2  
of flower, 581.466
- Modifying genes, 575.113.5
- Moisture  
influence of, 581.032  
lack of, 632.112
- Monkey nut, 634.58
- Monoblepharidinae, 632.411.1
- Monosomics, 576.356.4
- Morphology, 581.4  
cellular, 576.31
- Morus*, 634.38
- Mosaic, 632.8
- Mould, *see* mildew  
*Cladosporium*, 632.484
- Mountain ash, 634.973
- Mountain climate, 551.563
- Movement, 581.18
- Mulberry, 634.38
- Multiple  
allelomorphs, 575.113.3  
genes, 575.113.4
- Musa*, 634.771  
for fibre, 633.526.1
- Mushrooms, 635.8
- Musk-melon, 635.611
- Mustard  
as condiment, 633.844  
as oil plant, 633.853.49  
as vegetable, 635.44  
*see also* *Brassica*, 633.42
- Mutable genes, 575.246

- Mutations**  
 general studies, 575.24  
 induced, 575.243  
 reverse, 575.246  
 somatic, 575.247  
 specific mutants, 575.242  
*see also* anomalies of division
- Mycelia sterilia**, 632.485
- Mycelial forms**, 632.485
- Mycology**, 632.4
- Mycosphaerella**, 632.421.9
- Myrciaria**, 634.42
- Myrobalan**, 634.22
- Myrtaceous fruits**, 634.42
- NAGLI**, 633.171
- Nasturtium**, 635.56
- Natural selection**, 575.41
- Nectarine**, 634.256
- Nectria**, 632.421.9
- Nematode**  
 damage by, 632.6  
 galls due to, 632.223
- Nematospora**, 632.422.3
- Nematosporangium**, 632.411.4
- Nettle**, 633.525.2
- Neurospora**, 632.421.9
- Neutrons**, 539.185.9
- Nicotiana**, 633.71
- Nicotine**, 581.6  
*see also* plant chemistry, 581.192
- Niger**, 633.854
- Nigrospora**, 632.484
- Noctuid**, 632.7
- Nomenclature**, 001.4  
 taxonomic, 582
- Non-disjunction**, 576.356.1
- Northern climate**, 551.566.3
- Nucleolus**, 576.312.315
- Nucleus**, 576.312  
 division of, 576.35  
 free nuclear division, 576.352  
 role in cell life, 576.36  
*see also* chromosomes
- Number**  
 chromosome, 576.312.35  
 inheritance of, 575-184
- Nutrition**  
 physiology of, 581.13  
*see also* manures, 631.8
- Nuts**, 634.5
- OAK**, 634.972.1
- Oat grass**, 633.265
- Oats**, 633.13  
 as green forage, 633.253
- Obituaries**, 007
- Ocimum**, 633.956
- Oidium**, 632.421.1
- Oil palm**, 633.855.34
- Oil plants**, 633.85
- Okra**, 635.648
- Olea**, 634.63
- Olive**, 634.63
- Omphalia**, 632.472.3
- Onion**  
*Allium Cepa*, 635.25  
 other species, 635.26
- Ontogeny**  
*see* embryology, adaptation, growth
- Ophiobolus**, 632.421.9
- Opium poppy**, 633.75
- Orange**, 634.31
- Orbignya**, 633.855.37
- Origanum**, 635.71
- Origin**, 576.16
- Ornithopus**, 633.376
- Orobanche**, 632.5
- Orthosiphon**, 633.88
- Oryza**, 633.18
- Oscinella**, 632.7
- Osmosis**, 676.341  
*see also* plant chemistry, 581.192
- Otonia**, 633.841
- Ovule**, 581.321.1
- Oyster nut**, 634.57
- PADDY**, 633.18
- Pairing**  
 of chromosomes, 576.354.46
- Palauium**, 633.917
- Palm**, 634.6  
 oil, 633.855.34
- Paniceae**, 633.283
- Panicum**  
 as cereal, 633.171  
 as forage grass, 633.283
- Papaya**, 634.651
- Papaver**, 633.75
- Paprika**, 633.842
- Parasites**, 632
- Parasitism**, 576.6
- Parthenium**, 633.913
- Parthenogenesis**, 581.163
- Paspalum**, 633.266
- Patents**, 608.3
- Pathology**, 632
- Patrocliny**, 575.183
- Pattern**  
 inheritance of, 575.061.63
- Pawpaw**, 634.651  
 N. American, 634.418
- Pea**, 635.656  
 beetle, 632.7  
 pigeon pea, 635.659  
 spot, 632.482
- Peach**, 634.25  
 canker (*Valsa*), 632.421.9
- Peanut**, 634.58
- Pear**, 634.13
- Peat**  
 soils, 631.411.4
- Pecan**, 634.52
- Pedigree**, 575.19
- Pelargonium**, 633.812
- Pempheres**, 632.7
- Penicillium**, 632.421.2
- Peniophora**, 632.472.3
- Pennisetum**, 633.171
- Pentaploids**, *see* polyploidy, 576.356.5
- Pepper**  
*Piper*, 633.841  
*Capsicum*, 633.842
- Peppermint**, 635.72
- Perennial habit**, 581.143.26
- Peridermum**, 632.452
- Perilla**, 633.854.745
- Periodicity of growth**, 581.143.26
- Perisporineae**, 632.421.1
- Peronospora**, 632.411.4
- Peronosporinae**, 632.411.4
- Persea**, 634.653
- Persimmon**, 634.451
- Personalities**, 007
- Pests**, 632
- Petaloidy**, 581.466
- Pezizineae**, 632.421.6
- Phalarideae**, 633.284
- Phareae**, 633.289
- Phaseolus**, 635.652
- P. lunatus*, 635.653
- Phenol**  
 grain coloration, 578.088
- Phlyctaena**, 632.482
- Phoenix**, 634.62
- Phormium**, 633.526.41
- Photoperiodism**, 581.143.26.035.1
- Photosynthesis**, 581.13
- Phycomyces**, 632.412.1
- Phycomycetes**, 632.41
- Phyllophaga**, 632.7
- Phyllosticta**, 632.482
- Phylloxera**, 632.7
- Phylogenetic effects**, 575.32
- Phylogeny**, 576.1
- Phymatotrichum**, 632.484
- Physical influences**, 581.03
- Physics**, 53
- Physiological**  
 diseases, 632.19  
 forms, 576.16  
 influences, 581.01
- Physiology**  
 plant, 581.1
- Physoderma**, 632.412.5
- Phytalus**, 632.7
- Phytogeography**, 581.9
- Phytonomas**, 632.3
- Phytopathology**, 632
- Phytophaga**, 632.7
- Phytophthora**, 632.411.4
- Picea**, 634.975
- Pigeon pea**, 635.659
- Pigments**, 581.175.11  
 inheritance of, 575.061.6
- Pimenta**, 633.831
- Pimento**  
*Capsicum*, 633.842  
*Pimenta*, 633.831
- Pineapple**, 634.774
- Pineapple guava**, 634.42
- Pine**, 634.975
- Pinus**, 634.975
- Piper**, 633.841
- Pircularia**, 632.484
- Pistachio**, 634.574
- Pisum**, 635.656
- Plane**, 634.973
- Plant breeders**, 007:575
- Plantain**, 634.771
- Plants**  
 aromatic, 633.81  
 beverage producing, 633.7  
 breeding of, 575:633  
 economic, 633.5  
 medicinal, 633.88  
 oil, 633.85  
 ornamental, 635.9  
 parasitic, 632.5  
 protection of, 632.9  
 tanning, 633.87  
 textile, 633.5  
*see also* botany, 58
- Plasmodiophora**, 632.412.5
- Plasmopara**, 632.411.4
- Plastids**, 581.174
- Platanus**, 634.973
- Plectascineae**, 632.421.2
- Pleiotropic effects**, 575.172.3
- Plot tests**, *see* field experiments, crop tests
- Plum**, 634.22
- Poa**, 633.21
- Podosphaera**, 632.421.1

- Poisons (plant), 581.192  
     action on plants, 581.04  
     plants producing, 633.88  
     *see also* insecticides, 632.951.1  
 Political economy, 33  
 Pollen, 581.331.2  
     tubes, 581.331.23  
 Pollination, 581.162.3  
 Polyembryony, 581.481  
 Polyploidy, 576.356.5, *see also*  
     chromosome number, 576.312.35  
     true-breeding hybrids, 575.129  
*Polyporus*, 632.472.3  
 Polysomics, 576.356.4  
*Polyspora*, 632.483  
*Polystigmella*, *see Rhodoseptoria*  
 Pome fruits, 634.1  
 Pomegranate, 634.64  
 Pomelo, 634.323  
 Pomerac, 634.42  
*Poncirus*, 634.321  
 Popcorn, 635.677  
 Poplar, 634.972.3  
 Poppy, 633.75  
*Populus*, 634.972.3  
*Portulaca*, 635.46  
 Potato, 633.491  
     beetle, 632.7  
     sweet potato, 633.492  
 Powdery mildew, 632.421.1  
 Pressure  
     osmotic, 576.341  
 Probable error  
     *see* statistics, 519.24  
 Productivity, 631.557  
 Propagation, 581.165  
 Protandry, 581.145.1  
 Protection  
     plant, 632.9  
     patents, 608.3  
 Protoplasm, 576.311  
*Prunus*, 634.2  
     *P. Amygdalus*, 634.551  
 Pubescence  
     hairs, 581.49  
     *see* texture, inheritance of, 575.061.5  
*Puccinia*, 632.452  
 Pulses, 635.65  
 Pumpkin, 635.624  
*Punica*, 634.64  
 Pure breeding, 575.19  
     *see also* pure lines, clones, true-breeding hybrids  
 Pure lines, 575.148  
 Purity of seed, 631.521.1  
 Purslane, 635.46  
*Pyrausta*, 632.7  
*Pyrenomycetinae*, 632.421.9  
*Pyrethrum*, 632.951.1  
*Pyrus*, 634.1  
*Pythium*, 632.411.4
- QUALITY**, 581.6  
     baking, 664.641.016  
     milling, 664.641.016  
     *see also* chemistry, vitamins  
 Quantitative characters  
     inheritance of, 575–18  
     *see also* multiple factors, 575.113.4  
*Quercus*, 634.972.1  
 Quince, 634.14  
 Quinine  
     plants producing, 633.885.1
- RACES, 576.16  
     land, 631.524  
 Radio waves, 538.569  
 Radioactivity, 539.16  
 Radish, 635.15  
 Ragi, 633.171  
 Raisin tree, 634.661  
 Ramie, 633.525.1  
 Rape, 633.426  
     for oil, 633.853.49  
*Raphanus*, 635.15  
 Raspberry, 634.711  
     beetle, 632.7  
 Ratios, *see* factorial analysis  
     sex ratios, 577.8  
 Rays, 537.5  
     alpha, 539.164  
     beta, 539.165  
     cosmic, 537.59  
     gamma, 539.166  
     infra-red, 537.61–15  
     mutations due to, 575.243  
     ultra-violet, 535.61–31  
     X-, 537.531  
     *see also* neutrons, 539.185.9
- Reagents  
     chemical, 581.04  
 Recessiveness, 575.115  
 Reciprocal translocation, 576.356.2  
 Reclamation disease, 632.19  
 Recombination, 575.114  
 Redcurrant, 634.722  
 Red clover, 633.321  
 Red pepper, 633.842  
 Red top grass, 633.23  
 Reduction division, 576.354.4  
 Refractometer  
     *see* experimental technique, 578.08  
 Regeneration, 575.76  
 Reproduction, 581.16  
     asexual, 581.163  
     *see also* 581.165  
     of cell, 576.35  
     sexual, 581.162  
     vegetative, 581.165  
     *see also* embryology, 581.3
- Research  
     agricultural, 63.00.15  
     on crop plants, 633.00.15  
     on fruit crops, 634.00.15  
     on vegetables, 635.00.15  
 Resin plants, 633.94  
 Resistance  
     of varieties to disease, 631.521.6  
 Reverse mutations, 575.246  
 Reversion, 575.114.3  
*Rhabdocline*, 632.421.3  
*Rhabdocnemis*, 632.7  
*Rhizoctonia*, 632.485  
*Rhodoseptoria*, 632.482  
 Rhubarb, 635.48  
*Ribes*, 634.72  
 Rice, 633.18  
     fly, 632.7  
*Ricinus*, 633.853.55  
 Ripening, 631.547.6  
*Robinia*, 634.973  
 Röntgen rays, 537.531  
 Root, 581.43  
     crops, 633.4  
     *see also* 635.1  
 Root rot  
     *Phytophthora*, 632.484  
     *Pythium*, 632.411.4  
     *Rhizoctonia*, 632.485
- Root rot  
     *Thielaviopsis*, 632.484  
     *Xylaria*, 632.421.9  
 Rootstock, 581.165.711  
 Roselle, 633.524.35  
 Rosemary, 633.812.751  
*Rosmarinus*, 633.812.751  
 Rot, *see* root rot  
 Rotation, 631.581  
 Rotenone, 632.951.1  
 Rowan, 634.973  
 Rubber  
     *Hevea*, 633.912  
     others, 633.913  
*Rubus*, 634.71  
 Runner bean, 635.652  
 Rust, 632.452  
 Rutabaga, 633.426  
 Rye, 633.14  
 Ryegrass, 633.263
- SACCHAROMYCETES**, 632.422.3  
*Saccharum*, 633.61  
 Safflower, 633.854.797  
 Sage, 635.71  
 Salad plants, 635.5  
*Salix*, 633.584.3  
*Salvia*, 635.71  
 Sampling, 519.271.3  
*Sandoricum*, 634.65  
 Santol, 634.65  
 Sapodilla, 634.431  
 Satsuma orange, 634.322  
 Savoy, 635.346  
 Scab  
     apple (*Venturia*), 632.421.9  
     black, 632.412.5  
     citrus, 632.422.1  
     *common* (*Actinomyces*), 632.3  
 Scale insects, 632.7  
 Scarlet runner, 635.652  
 Scion, 581.165.712  
*Scirphophaga*, 632.7  
*Sclerospora*, 632.411.4  
*Sclerostachya*, 633.282  
*Sclerotinia*, 632.421.6  
*Sclerotium*, 632.485  
*Scorzonera*  
     *for* rubber, 633.913  
     *edible roots*, 635.166  
 Scutellum, 581.48  
 Seakale, 635.346  
*Secale*, 633.14  
 Secondary association, 576.312.38  
 Seed, 581.48  
     authenticity, 631.521.5  
     extraction, 631.561  
     formation of, 581.141  
     oil seeds, 633.85  
     origin, 631.531.12  
     storage of, 578.08  
     production, 631.531.12  
     sowing, 631.531  
     storage, 631.531.16  
     testing, 631.521.5  
 Seedlings, 581.143.7  
 Segmental interchange, 576.356.2  
 Segregation, 575.114  
     somatic, 575.25
- Selection  
     artificial, 575.42  
     natural, 575.41  
     *of resistant varieties*, 631.521.6  
     *of seed*, 631.521.1

- Self-compatibility, 581.162.52  
 Self-fertility, 581.162.52  
 Self-pollination, 581.162.31  
     see also inbreeding, 575.14  
 Senescence, 575.74  
 Senility, 575.74  
*Septoglossum*, 632.483  
*Septoria*, 632.482  
 Serology, 615.37  
 Sesame, 633.853.74  
*Sesamum*, 633.853.74  
*Sesbania*, 634.976.26  
     for fibre, 633.524.5  
*Setaria*, 633.171  
 Sex, 577.8  
     chromosomes, 576.312.332  
     influence of, in inheritance, 575.18  
     linkage, 575.116.7  
     see also sterility, male and female, 581.162.51  
 Sexual reproduction, 581.162  
 Shade trees, 631.543.1  
 Shallot, 635.26  
 Shallu, 633.174  
 Shape, inheritance of, 575.061.1  
 Shattering, 581.148  
 Shea nuts, 633.855.357.4  
 Shedding, 581.148  
 Shoots, 581.44  
 Silvicultural practice, 634.956  
*Sinapis*  
     see mustard  
*Sisal*, 633.526.23  
*Sitodiplosis*, 632.7  
 Size  
     chromosome, 576.312.34  
     inheritance of, 575–181  
*Smut*, 632.451  
 Snake bean, 635.659  
 Snap bean, 635.652  
 Social economics, 33  
 Social statistics, 31  
 Societies, 061  
 Sociology  
     plant, 581.5  
 Softwood trees, 634.976.26  
 Soil, 631.4  
*Soja*, 635.655  
*Solanum*, 633.491  
     *Melongena*, 635.646  
     *muricatum*, 635.6  
 Somatic  
     mutation, 575.247  
     see also chimaeras, 575.255  
     pairing, 576.312.38  
*Sorbus*, 634.973  
 Sorghum  
     as cereal, 633.174  
     for green forage, 633.282  
     sweet sorghum, 633.62  
*Sorosporium*, 632.451.3  
 Sorrel, 635.45  
 Sound waves, 534.39  
 Soya bean, 635.655  
*Spartium*, 633.527  
 Species, 576.16  
     interspecific hybridization, 575.127.2  
     introduction of, 631.524  
*Speltoids*, 633.11:575.242  
*Sphacelotheca*, 632.451.2  
*Sphaeropsidales*, 632.482  
*Sphaerotheca*, 632.421.1  
 Spices, 633.83  
     aromatic, 633.82  
 Spikelets, 581.46  
*Spinacia*, 635.41  
 Spinach, 635.41  
 Spines, 581.49  
*Spondias*, 634.443  
*Sporodesmium*, 632.484  
 Sporogenesis, see meiosis  
 Sports  
     bud, 575.247  
     see also mutations, 575.242  
 Spot (in peas), 632.482  
 Spring  
     varieties, inheritance of, 575.‘793’  
 Sprouting, 581.142  
 Spruce, 634.975  
 Squash, 635.62  
 Staining, 578.65  
 Standard deviation, see statistics  
 Standing capacity, 632.183  
 Starch plants, 633.68  
 Statistics, 519  
     sampling, 519.271.3  
     social, 31  
     statistical analysis, 519.24  
     see also field experiments, correlation  
 Stems, 581.44  
     see also straw  
*Stephanoderis*, 632.7  
*Stereum*, 632.472.3  
 Sterile mycelia, 632.485  
 Sterility, 581.162.5  
 Stewart’s disease, 632.3  
 Stiffness  
     of straw, 632.183  
 Stigma, 581.466  
 Stimulants  
     content of, 581.6  
     plants producing, 633.7  
 Stock, 581.165.711  
 Stomata, 581.49  
*Stomatococcus*, 632.7  
 Stone fruits, 634.2  
 Strains, see varieties  
 Straw  
     stiffness, 632.183  
 Strawberry, 634.75  
 Strength  
     of fibres, 581.6  
     of flour, 664.641.016  
     of straw, 632.183  
*Striga*, 632.5  
 Sudan grass, 633.282  
 Sugar apple, 634.414  
 Sugar beet, 633.63  
 Sugar cane, 633.61  
     borers, 632.7  
 Sugar maple, 634.972.2  
 Sugar plants, 633.6  
 Sumach, 633.871  
 Summer squash, 635.621  
 Summer varieties  
     inheritance, 575.‘793’  
 Sunflower, 633.854.78  
 Supersonic waves, 534.39  
 Swede turnip, 633.426  
 Sweet clover, 633.366  
 Sweet corn, 635.67  
 Sweet potato, 633.492  
 Sweet sop, 634.412  
 Sweet sorghum, 633.62  
*Swietinia*, 634.976.22  
 Sycamore, 634.972.2  
     scale, 632.7  
 Symbiosis, 576.6  
 Synapsis, 576.354.4  
*Synchytrium*, 632.412.5
- Synonyms  
     varietal, 631.521.5  
 Systematic botany, 582
- Tamarind, 634.461  
*Tamarindus*, 634.461  
 Tangelo, 634.32  
 Tangerine, 634.322  
 Tanning plants, 633.87  
*Taphrina*, 632.422.1  
 Tapioca, 633.682  
*Taraxacum*  
     for rubber, 633.913  
 Taro, 633.689  
 Taxonomy, 582  
 Tca, 633.72  
 Teak, 634.973  
 Teasel, 633.9  
 Technique, 578.08  
     of botanical identification, 578.088  
     microscopic, 578.6  
*Tectona*, 634.976.22  
 Teff, 633.19  
*Telfairea pedata*, 634.57  
 Temperature  
     damage due to, 632.11  
     influence of, 581.036  
 Tengkawang, 633.859  
 Teosinte, see under maize, 633.15  
 Teratology, 581.2  
 Terminology, 001.4  
 Testa, 581.48  
 Tests  
     field and plot, 631.421  
     variety, 633.014  
 Tetraploidy, 576.356.5  
 Tetrasomics, 576.356.4  
 Textile plants, 633.5  
 Texture  
     inheritance of, 575.061.5  
*Thea*, 633.72  
*Theobroma*, 633.74  
*Thielavia basicala*, see *Thielaviopsis*  
*Thielaviopsis*, 632.484  
 Thorns, 581.49  
 Thrips, 632.7  
 Thyme, 635.71  
*Tilia*, 634.972.7  
 Tillerling, 581.144  
*Tilletia*, 632.451.3  
 Tip-burn, 632.19  
 Tipulids, 632.7  
 Tobacco, 633.71  
*Tomaspis*, 632.7  
 Tomato, 635.64  
 Tonka beans, 633.82  
 Toria, 633.853.49  
 Toxic substances  
     in plants, 581.192.6  
     effect of, 581.04  
     see also plant chemistry, 581.192  
 Transgenation, 576.356  
 Translocation, 576.356.2  
 Tree tomato, 634.776.1  
 Trees  
     forest, 634.97  
     fruit, 634  
 Trifoliate orange, 634.321  
*Trifolium*, 633.32  
 Triploidy, 576.356.5  
*Tripsacum*, see under maize, 633.15  
 Trisomics, 576.356.4  
*Triticum*, 633.11  
 Tropics, 551.566.1

- True-breeding hybrids, 575.129  
*Tsuga*, 634.975  
*Tuba*, 632.951.1  
 Tubers, 633.4  
     *see also* 635.2  
 Tung, 633.854.56  
 Turnip, 633.42  
 Turpentine plants, 633.94  
*Typhula*, 632.472.3  
  
*Ulmus*, 634.972.8  
 Ultra-violet rays, 535.61–31  
 Unfruitfulness, 581.162.5  
*Uncinula*, 632.421.1  
 Uredinales, 632.452  
*Urena* fibre, 633.524.33  
*Urocystis*, 632.451.3  
*Uromyces*, 632.452  
*Urtica*, 633.525.2  
 Urticaceae  
     for fibre, 633.525.2  
 Ustilaginales, 632.451  
*Ustilago*, 632.451.2  
*Ustulina*, 632.421.9  
 Utilization  
     of forest products, 634.98  
     of plants, 581.6  
  
*Vaccinium*, 634.73  
*Valsa*, 632.421.9  
*Vanilla*, 633.821  
 Variance  
     analysis of, 519.24  
 Variation  
     biological, 575.2  
 Variegation  
     inheritance of, 575.061.633  
 Varietal distinctions, methods of determining, 578.088  
     *see also* systematic botany, 582  
 Varieties  
     early and late, inheritance, 575“793”  
     local (“land races”), 631.524.4  
     origin, 576.16  
     resistant, 631.521.6  
     spring, inheritance, 575“791”  
     tests, 63.00.14  
  
     Varieties  
         winter, inheritance, 575“791”  
         *see also under individual crops*  
     Vegetable marrow, 635.62  
     Vegetable waxes, 633.856  
     Vegetables, 635  
         *(see also under 633)*  
     Vegetative  
         mutation, 575.247  
         propagation, 581.165  
*Venturia*, 632.421.9  
*Verbena*, 633.812.732  
 Vernalization, 581.143.26.03  
*Verticillium*, 632.484  
 Vetches, 633.35  
*Vicia*, 633.35  
     *Faba*, 635.651  
 Vicinism, 581.162.32  
*Vigna*, 635.654  
 Vigour  
     hybrid, 575.125  
 Vines, 634.835  
 Virus diseases, 632.8  
 Vitamins, 577.16  
 Viticulture, 634.8  
*Vitis*, 634.835  
 Vitreousness  
     of grain, 664.641.016  
 Vivipary, 581.142  
  
     WALNUT, 634.51  
 Wart  
     in potatoes, 632.412.5  
 Water  
     influence of, 581.032  
 Watercress, 635.561  
 Water-melon, 635.615  
 Waves  
     sound, 534.39  
     supersonic, 534.39  
     wireless, 538.569  
 Wax-producing plants, 633.856  
 Weeds, 632.51  
 Weevil, 632.7  
 Weight  
     inheritance of, 575–183  
  
     Wheat, 633.11  
         bug, 632.7  
         gall midge, 632.7  
     White clover, 633.322  
     Whortleberry, 634.73  
 Width  
     inheritance of, 575–181.12  
 Willow, 633.584.3  
 Wilt  
     bacterial, 632.3  
     *Fusarium*, 632.484 ~  
 Wine, *see* viticulture  
 Winter  
     damage due to, 632.111  
     melon, 635.611  
     varieties, inheritance of, 575“793”  
 Wireless waves, 538.569  
 Witch broom, 632.2  
     *Marasmius*, 632.472.3  
 Witchweed, 632.5  
 Wither-tip, 632.483  
 Wood oil, 633.854.56  
 Woolly aphid, 632.7  
 Wounding, 581.03  
  
     *Xanthosoma*, 633.689  
     *Xanthium*, 633.85  
     *Xenia*, 575.183  
     X-rays, 537.531  
     *Xylaria*, 632.421.9  
  
     YAM, 633.685  
     Yeasts, 632.422.3  
     Yellows  
         *Fusarium*, 632.484  
         virus, 632.8  
     Yield, 631.557  
     Ylang-ylang, 633.859  
     Youngberry, 634.714  
     *Yucca*, 633.526.43  
  
     *Zea*, 633.15  
         *see also* popcorn, sweet corn  
     *Zingiber*, 633.825  
     *Ziziphus*, 634.662  
     *Zygosaccharomyces*, 632.422.3

# CLASSIFIED SUBJECT INDEX

## To Plant Breeding Abstracts, Volume X

**001.4 Nomenclature, terminology** 139, 327, 490, 508, 679, 684, 708, 991.

**007 Personalities** 272, 274, 288, 602-3, 936, 989, p. 151.

**016 Bibliographies.**

- :576.312.34 Chromosome size and form 339-40.
  - :632.111 Cold p. 153.
  - :632.422.3 Saccharomycetinae 280.
- :633 Crops in general 14, 280, p. 253.
- :634 Fruits 921, 1115.
- :634.97 Forest trees 311, 1134.
- :635 Vegetables 921.

**02 Libraries** p. 248.

**030.8 Dictionaries** p. 64.

**061.3 Congresses** 2, 81.

**061.6 Institutes** 328.

**5 PURE SCIENCE** p. 64, p. 150.

**51 MATHEMATICS.**

**519 Statistics.**

- 519.24 Analysis and interpretation of statistical material 67, 974-7, p. 248, p. 249, p. 250, p. 317.
  - :575 Breeding and genetics 82, 264, 330, 931, p. 150, p. 252.
  - :631.421 Design of field experiments 68, 664-7, 922-5, 978-81, p. 150, p. 250, p. 317.
  - :633 Crop plants 70, 259, 315, 632-3, 791.
    - :634.97 Forest trees 69.
    - :635.64 Tomato 313.
  - :633.854.56 Tung 1088.

519.241.1 Correlation coefficients 71.

- :633.11 Wheat 103, 610-1, 723, 734, 743.
- :633.13 Oats 124, 613.
- :633.15 Maize 126, 128, 133, 135.
- :633.16 Barley 20, 445.
- :633.491 Potato 1055.
- :633.51 Cotton 491, 629, 793.
- :633.912 Rubber (Hevea) 307.
- :635.61/3 Cucurbits 571.

519.271.3 Sampling methods 72-3, 598, 683.

**53 PHYSICS.**

535.61-31 Ultra-violet rays 433, 435, 994.

537.531 X-rays.

- :575.243 Induced mutations 333, 994.
- :576.3 Cytology 88, 92, 94, 267, 341, 346-7, 997.
- :633 Crop plants 21, 100, 440-1, 803, 827, 1013.
- :635 Vegetables 21, 100, 242, 902.

538.569 Wireless waves 1075.

539.185.9 Neutrons 88.

**551.56 Climatology.**

551.566.1 Tropical climate 262, p. 253.

**57 BIOLOGICAL SCIENCES** p. 251.

**575 HEREDITY. BREEDING** 2, 167, 668, 926, p. 64, p. 151.

- :633 **PLANT BREEDING IN GENERAL** see 633 : 575.  
*For breeding of specific crops, see under appropriate numbers, e.g. 635:575, vegetable breeding, 633.11:575, wheat breeding, etc.*

575.061.1 *Inheritance of form, habit* 148, 237, 247, 624, 908  
1105, 1138, 1143.

575.061.5 *Inheritance of texture* 25, 102, 256.

575.061.6 *Inheritance of colour.*

- :581 Botany 587, 682.
- :633.1 Cereals 22, 426, 941, 944-5, 1043.
- :633.31/37 Leguminous forage plants 157, 776, 778.
- :633.492 Sweet potato 173.
- :633.7 Stimulants 44, 811, 815, 822, 1082.
- :634 Fruits 207, 309, 543, 654.
- :635 Vegetables 249, 250, 257, 577, 902, 909, 1142, 1150, 1155.

575.061.63 *Inheritance of colour distribution* 617.

575.061.633 *Inheritance of variegation* 290-1, 614, 1044.

575.061.634 *Inheritance of albinism* 18, 52, 100, 422, 440, 459.

575-18 *Inheritance of quantitative characters*

- :519.24 Statistical analysis 931.
- :633 Crop plants 425, 461-2, 613, 728, 755, 950.
- :635.64 Tomato 313, 330, 901.

575-181 *Inheritance of size* 149, 215, 571, 654, 1163.

575-181.12 *Inheritance of length and breadth* 103, 150, 491, 729, 793.

575-181.13 *Inheritance of height* 449, 1045.

575-184 *Inheritance of number* 436, 629.

575-793" *Inheritance of earliness and lateness.*

- :633 Crop plants 17, 282, 384, 518, 726, 750, 800, 1007.
- :634 Fruits 653, 1103.
- :635.624 Pumpkin 573.
- :635.64 Tomato 900.

**575.1 MENDELISM AND GENETICS** 2, 81, 327-8, 678-9, 708, 990-1, p. 251.

- :575 Breeding 2.
- :576.12 Evolution 2, 263.
- :577.8 Sexuality 992.
- :58 Botany 2, 329.
- :633 Crop plants 81, 146, 263, 680, 948, 987, 1055, 1061.
- :634.835 Grapes 1127.

**575.11 FACTORIAL ANALYSIS.**

- :575 Breeding 668.
- :578.08 Experimental technique 681.
- :581 Botany 360, 587, 676, 682, 706, 1075.
- :632.4 Fungous diseases 98, 365, 367, 592.
- :633.11 Wheat 603, 728-9.
- :633.11.1 Correlation coefficients 610.
- :633.127 Intergeneric and interspecific hybridization 275, 1010.
- :631.4 Morphology 103, 385, 604, 937, 941.
- :631.557 Yield 1016.
- :632 Plant diseases and pests 118, 610, 743, 941, 1018.
- :633.13 Oats 750.
- :633.14 Rye 17, 1010.
- :633.15 Maize 426, 1024-5, 1036.
- :633.16 Barley 141, 440, 444, 1038-9.
- :633.17 Millets. Sorghum 22-25, 284, 767, 769, 944-5, 1040.
- :633.18 Rice 147-8, 150, 1043.
- :633.2 Forage grasses 284, 459.
- :633.31/37 Leguminous forage plants 157, 776, 778, 1053.
- :633.491 Potato 163.

## 575.11—continued.

- :633.5 Fibre plants 290, 490, 621, 623, 629, 800, 950.
- :633.63 Sugar beet 1075.
- :633.7 Stimulants 44, 512, 811, 815, 840.
- :634 Fruits 216, 231, 309, 530, 651, 860, 873, 1098, 1105.
- :634.97 Forest trees 657, 885.
- :635.15 Radish 1142.
- :635.35 Cauliflower 894.
- :635.46 Purslane 1143.
- :635.52 Lettuce 570, 1144.
- :635.63 Cucumber 1151.
- :635.64 Tomato 247, 901.
- :635.646 Egg-plant, brinjal (*Solanum Melongena*) 1155.
- :635.652 Phaseolus 66, 249, 250–1, 909.
- :635.654 Dolichos, *Vigna* 251–2.
- :635.656 Peas 255–7, 314, 1163.

## 575.113 Mendelian factors 139, p. 318.

- 575.113.3 Multiple allelomorphs 470, 624.
- 575.113.4 Multiple genes 207, 313, 330, 543, 755, 910–1.
- 575.113.5 Modifying genes 138.
- 575.113.6 Inhibiting genes 543.
- 575.113.7 Lethal genes 26, 291, 333, 388, 1026.

## 575.114 Segregation and recombination 82, 108, 246, 366, 424, 427, 683, 844.

## 575.115 Dominance and recessiveness 82, 1020.

## 575.116 Linkage, crossing-over.

- 575.116.1 Linkage, crossing-over, interference.
    - :519.24 Statistical analysis 264.
  - :576.356.2 Segmental interchange and similar structural changes 437.
  - :578.08 Experimental technique 264.
  - :633.11 Wheat 1017.
  - :633.13 Oats 750.
  - :633.15 Maize 130, 430, 437, 1027.
  - :633.16 Barley 139, 444, 614.
  - :633.174 Sorghum 25, 768.
  - :633.18 Rice 1044.
  - :633.51 Cotton 290–1.
  - :634 Fruits 309, 548, 1117.
  - :635 Vegetables 662, 1152.
- 575.116.12 Crossing-over 1032.
- 575.116.4 Chromosome mapping 654, 1026.
- 575.116.7 Sex linkage 229.

## 575.12 HYBRIDIZATION. HYBRIDS 684.

- :632.4 Fungous diseases 367, 591, 1000.
- :633.1 Cereals 131–2, 135, 151, 394, 428, 756–7, 771, 1075.
- :633.31/37 Leguminous forage plants 468–9.
- :633.4 Roots and tubers 503, 808, 891, 1075.
- :633.63 Sugar beet 503, 808, 1075.
- :633.7 Stimulants 816, 964.
- :633.912 Rubber (*Hevea*) 849.
- :634 Fruits 210, 220, 552, 875.
- :634.97 Forest trees 1139–40.
- :635 Vegetables 63, 83, 891, 1149, 1153.

## 575.123 Heterozygosis 365.

## 575.125 Hybrid vigour.

- :575.127.2 Interspecific hybridization 83.
- :577.17 Hormones 331.
- :632.422.3 *Saccharomyces* 1001.
- :633.1 Cereals 133–5, 331, 418, 429, 431, 1028–9.
- :633.7 Stimulants 46, 300, 811, 816.
- :635 Vegetables 63, 83, 891, 1149, 1153.

## 575.127 Intergeneric and interspecific hybridization 84, 324, 528, 850, 1094.

## 575.127.2 Interspecific hybridization.

- :575.125 Hybrid vigour 83.
- :576.3 Cytology 93, 342.

## 575.127.2—continued.

- :633.11 Wheat 730.
- :575 Breeding and genetics 275, 604.
- :576.356 Anomalies of division 104, 386, 731, 792, 1008–9.
- :632.4 Fungous diseases 16, 116, 276, 406, 713.
- :633.11 *Aegilops*. *Aegilops* 745, 1020.
- :633.13 Oats 414–5, 713, 1022.
- :633.174 Sorghum 446.
- :633.2 Forage grasses 446, 463.
- :633.31/37 Leguminous forage plants 467.
- :633.4 Roots and tubers 28, 159, 163, 171–2, 476, 478, 783, p. 254.
- :633.51 Cotton 176, 289, 355, 626, 792, 949, 1062–3.
- :633.52 Linum and analogous fibres 293, 494, 501, 806.
- :633.6 Sugar and starch plants 502, 504, 637–9, 1075.
- :633.71 Tobacco 184, 506.
- :575.129 True breeding hybrids 187.
- :576.3 Cytology 639, 811, 817–9.
- :581 Botany 185, 507, 510, 590, 811, 820, 832.
- :632.8 Virus diseases 832, 1078.
- :633.73 Coffee 301, 1080.
- :633.854.78 Sunflower 197, 520.
- :633.913 Taraxacum 202–4, 1092.
- :633.956 Camphor plants 988, 1093.
- :634.1 Pome fruits 213, 531–2.
- :634.2 Stone fruits 214, 652, 857, 1099, 1104.
- :634.3 Citrus fruits 537–8, 862.
- :634.5 Nuts 308, 539–41.
- :634.7 Small bush fruits 224, 544, 970, 1119.
- :634.8 Grapes 229, 877.
- :634.97 Forest trees 236, 311, 556–7, 559, 880, 1133.
- :635 Vegetables 28, 64, 197, 246, 248, 520, 572, 901, 904, 913.

## 575.127.5 Intergeneric hybridization.

- :633.11 in Wheat 387, 938.
- :633.11 *Aegilops*. Wheat-*Aegilops* crosses 388.
- :633.14 Wheat-rye crosses 105, 107, 389, 406, 939, 1010.
- :633.289 Wheat-*Agropyron* crosses 390, 938.
- :633.289 Wheat-*Elymus* crosses 106.
- :633.11 *Aegilops*. in *Aegilops*.
- :633.11 *Aegilops*-wheat crosses 388.
- :633.14 in Rye.
- :633.11 Rye-wheat crosses 105, 107, 389, 406, 939, 1010.
- :633.15 in Maize 760
- :633.15 Zea-Euchaena crosses 430.
- :633.174 in Sorghum
- :633.61 Sorghum-sugar cane crosses 35.
- :633.289 in *Agropyron*.
- :633.11 *Agropyron*-wheat crosses 390, 938.
- :633.289 *Agropyron*-*Elymus* crosses 154.
- :633.289 in Bamboo.
- :633.61 Bamboo-sugar cane crosses 36.
- :633.289 in *Elymus*.
- :633.11 *Elymus*-wheat crosses 106.
- :633.289 *Elymus*-*Agropyron* crosses 154.
- :633.61 in Sugar cane.
- :633.174 Sugar cane-sorghum crosses 35.
- :633.289 Sugar cane-bamboo crosses 36.
- :633.71 in Tobacco 510.
- :634.11 in Apple.
- :634.13 Apple-peach crosses 856.
- :634.13 in Pear.
- :634.11 Pear-apple crosses 856.
- :634.3 in Citrus fruits 219

- 575.129 True breeding hybrids, amphidiploids, etc.**
- :633.1 Cereals 107–8, 391–2, 406, 658, 731, 938.
  - :633.289 Agropyron 938.
  - :633.41 Beet 159.
  - :633.51 Cotton 796.
  - :633.63 Sugar beet 1075.
  - :633.71 Tobacco 186–7, 508, 811, 817, 819.
  - :633.854.78 Sunflower 197.
  - :635 Vegetables 197, 658.

**575.14 Inbreeding.**

- :632.422.3 Saccharomycetinae 711.
- :633 Crop plants 418–9, 424, 431, 491, 756, 767, 793, 1029, 1075.
- :634.835 Grapes 1128.

575.148 Pure lines 134–5, 1029, 1075.

**575.17 The gene 2, 689.**

575.172.3 Pleiotropic effects 463.

**575.18 The influence of sex 992.**

575.182 Maternal influence 393, 758.

575.183 Paternal influence, xenia 22, 332, 393, 420.

**575.19 Genealogy. Pedigree breeding 723.**

**575.2 VARIATIONS, MODIFICATIONS, MUTATIONS 302, 305, 479, 641.**

**575.22 Natural variations 6, 215, 1148.**

**575.24 Mutation 85, 365, 588, 685, 993.**

**575.242 Mutants.**

- :632.4 Fungous diseases 10, 365, 367, 593.
- :633.11 Wheat 394–5, 604, 1011.
- :633.13 Oats 749, 1023.
- :633.16 Barley 440–1, 614.
- :633.174 Sorghum 26.
- :633.18 Rice 149, 449.
- :633.367 Lupin 778.
- :633.42 Turnip 618.
- :633.51 Cotton 290–1, 623.
- :633.7 Stimulants 42, 189, 821, 1082.
- :633.842 Capsicum 965.
- :634.653 Avocado 869.
- :634.97 Forest trees 237.
- :635 Vegetables 255, 314, 661.

575.243 Induced mutations 100, 333–5, 839, 902, 994, 1012–3, 1075.

**575.246 Reverse mutations, mutable genes 149.**

**575.247 Somatic mutations, bud sports.**

- :633 Crop plants 41, 52, 173, 183, 617, 822, 1030.
- :634 Fruits 206, 208, 215, 221, 536, 656, 1102, 1130.

**575.25 Somatic segregation.**

575.255 Chimaeras 173, 497, 1059.

**575.3 ADAPTATION 265, 577, 717, 784, 908, 913.**

**575.4 SELECTION 686.**

**575.41 Natural selection 441, 683, 1110.**

**575.42 Artificial selection.**

- :519.24 Statistical analysis, p. 252.
- :581.48 Seed 995.
- :632 Plant diseases and pests 99, 270, 712.
- :633 Crop plants 932, 995.
- :633.1 Cereals 143, 450, 605–6, 616, 732, 1031.
- :633.5 Fibres 178, 292, 492.
- :633.7 Stimulants 188, 299, 300, 823, 834.
- :633.841 Pepper (Piper) 841.
- :633.885.1 Cinchona 522.
- :633.912 Rubber (Hevea) 55, 188, 847.
- :634 Fruits 58, 61, 540, 546, 653, 656, 1112.
- :634.97 Forest trees 657, 1141.
- :635 Vegetables 239–40, 243, 573, 896, 905, 915.

**576.1 ORIGIN OF ORGANIZED BEINGS.**

**576.12 Evolution 687, p. 151.**

- :575 Breeding and genetics 2, 263, 265, 588, 686.
- :576.356 Anomalies of division 7, 348–9, 588.
- :577.8 Sexuality 589.
- :58 Botany 265, 589, 708.
- :633.262 Bromus 463.

**576.16 Species, varieties, races, ecotypes, physiological forms and their origin 687.**

- :576.356 Anomalies of division 688, 692.
- :582 Systematic botany 688.
- :632 Plant diseases and pests 271, 455, 592–3, 713, 1002–3, 1034, 1144.
- :633.1 Cereals 717.
- :633.11 Wheat 391, 395, 397, 604, 607..
- :633.11 *Aegilops*. *Aegilops* 745.
- :633.12 Buckwheat 747.
- :633.13 Oats 416.
- :633.15 Maize 136, 430, 759–60.
- :633.174 Sorghum 284.
- :633.18 Rice 451, 771.
- :633.2 Forage grasses 284, 1047.
- :633.31/37 Leguminous forage plants 465, 469, 775.
- :633.4 Roots and tubers 158–60, 475.
- :633.51 Cotton 263, 289, 625, 794.
- :633.6 Sugar plants 158, 635, 1075.
- :633.7 Stimulants 817, 836.
- :633.854.78 Sunflower 197.
- :634 Fruits 57, 60, 213, 223, 230, 533, 545, 547, 861.
- :634.97 Forest trees 1136–7.
- :635 Vegetables 57, 197, 312, 465, 775, 892, 906.

**576.3 GENERAL CYTOLOGY 681, 824.**

**576.31 CELLULAR MORPHOLOGY. STRUCTURE AND COMPOSITION OF THE CELL.**

**576.311 Protoplasm or cytoplasm 711.**

**576.312 THE NUCLEUS 2, 86, 689, 1048.**

576.312.3 Structure of the nucleus 336.

576.312.315 Nucleolus 3–4, 607, 996.

**576.312.32 Chromosomes 2, 1011, 1021.**

576.312.332 Sex chromosomes 241, 337, 496–7, 992.

576.312.34 Chromosome size, form and structure 338–40, 689.

—:576.312.315 Nucleolus 3.

—:576.35 Division of the cell and of the nucleus 7, 87, 345, 349, 702.

—:633.1 Cereals 109, 396–7, 416, 432, 451, 607, 733, 745.

—:633.52 Linum and analogous fibres 87, 181.

—:633.71 Tobacco 42.

—:634.97 Forest trees 881.

—:635 Vegetables 568, 898.

576.312.341 Internal structure of the chromosome 89.

576.312.342 External structure of the chromosome 4.

576.312.35 Chromosome number.

—:632.5 Orobanche 811.

—:633.18 Rice 607.

—:633.2 Forage grasses 457–8, 635, 690, 774, 1049–50.

—:633.31/37 Leguminous forage plants 155, 465, 471.

—:633.4 Roots and tubers 160, 485.

—:633.5 Fibres 95, 181, 289.

—:633.821 Vanilla 1084.

—:633.85 Oil plants 650, 1087.

—:633.88 Cassia 966.

—:634.662 Jujube 655.

—:634.97 Forest trees 881.

—:635 Vegetables 312, 465, 565, 660.

576.312.38 Role of the nucleus in the cell 567, 1084.

576.312.381 Chromosome mechanics. The centromere 89, 266, 268, 341, 343.

**576.35 DIVISION OF THE CELL AND OF THE NUCLEUS**  
342, 906.

**576.353 Mitosis** 41, 88, 90–2, 242, 343, 703, 1084.

**576.354.4 Meiosis** 337.

- :537.531 X-rays 92.
- :575.24 Mutation 365.
- :576.312 The nucleus 87, 89.
- :576.353 Mitosis 92.
- :581.01 *Internal influences* 344.
- :632.5 Crobanche 811.
- :633.1 Cereals 105, 107, 140, 406, 415, 419, 607.
- :633.2 Forage grasses 460.
- :633.4 Roots and tubers 159, 163–4.
- :633.52 Linum and analogous fibres 181, 494.
- :633.7 Stimulants 42, 301, 817.
- :633.854.78 Sunflower 197.
- :633.913 Taraxacum 202, 1092.
- :634 Fruits 224, 1099.
- :635 Vegetables 92, 197, 312, 344, 567.

**576.354.46 Synapsis, chromosome pairing, chiasmata, etc.** 93, 266, 345, 745.

**576.356 ANOMALIES OF DIVISION.**

- :53 Physics 88, 94, 267, 346.
- :575.243 Induced mutations 333.
- :576.1 Evolution 588, 688.
- :576.312 The nucleus 268, 337.
- :576.353 Mitosis 88.
- :576.356.5 Haploidy, polyploidy 353, 697.
  - :581 Botany 94, 362, 691.
  - :633.1 Cereals 104, 141, 386, 419, 421, 1024.
  - :633.5 Fibres 176, 180, 806.
  - :633.63 Sugar beet 1075.
  - :633.7 Stimulants 185, 818, 839, 1080.
  - :633.842 Capsicum 647.
  - :634.97 Forest trees 1132, 1139.
  - :635 Vegetables 242, 312, 314, 691.

**576.356.2 Segmental interchange and similar structural changes** 327, 679, 991.

- :537.531 X-rays 347.
- :575.116.1 Linkage, crossing-over, interference 437.
- :576.354.46 Synapsis, chromosome pairing, chiasmata, etc. 93.
- :576.356.4 Monosomics, polysomics, etc. 5
  - :581.02 *External influences* 347.
- :633.1 Cereals 137, 394, 397–8, 433, 604, 733, 1008, 1030, 1032–3.
- :633.71 Tobacco 41, 590, 815.
- :633.854.78 Sunflower 197.
- :635 Vegetables 197, 255, 662.

**576.356.4 Monosomics, polysomics, etc.** 5, 42, 197, 693.

**576.356.5 Haploidy, polyplodity** 508, 1139.

- :537.531 X-rays 997.
- :575 Breeding and genetics 6, 334, 358.
- :576.1 Evolution 7, 348–9, 692.
- :576.312.3 Structure of the nucleus 4, 7, 349, 702.
- :576.356 Anomalies of division 353, 697.
- :578.08 Experimental technique 9, 354, 464, 508, 693.
- :581.04 *Influence of chemical agencies* 8, 350–2, 694–6, 998.
- — :576.356 Anomalies of division 353, 697.
- — :578.08 Experimental technique 9, 464, 508.
- — :581.45 Leaf 354.
- — :633 Crop plants 95, 269, 355–7, 698–700.
- — :634 Fruits 358.
- — :635 Vegetables 359, 701.
- :581.16 Reproduction 354, 702.
- :581.45 Leaf 354.
- :581.9 Phytogeography 690, 801.
- :632 Plant diseases 363, 366.

**576.356.5—continued.**

- :633 Crop plants 269, 353, 355, 697–8.
  - :633.1 Cereals 101.
  - :633.11 Wheat 356, 395, 699, 731, 792, 938, 1009.
  - :633.12 Buckwheat 121.
  - :633.13 Oats 415.
  - :633.14 Rye 18, 422.
  - :633.15 Maize 434, 761.
  - :633.16 Barley 764.
  - :633.18 Rice 4, 451.
  - :633.2 Forage grasses 153, 458–9, 464, 635, 773, 1047.
  - :633.31/37 Leguminous forage plants 155, 465–7, 471–2.
  - :633.491 Potato 95, 164, 476–7.
  - :633.51 Cotton 355, 626–8, 792, 795–6, 949, 1062.
  - :633.52 Linum and analogous fibres 95, 179, 181, 494, 497–8, 801.
  - :633.6 Sugar and starch plants 639, 1069, 1075–6.
  - :633.71 Tobacco 820.
  - :575.12 Hybrids 186, 508, 639, 811, 819.
  - :576.3 Cytology 42, 824.
  - :577.17 Hormones 187.
  - :581 Botany 509, 825.
  - :633.79 Hops 839.
  - :633.842 Capsicum 1085.
  - :633.854.78 Sunflower 198.
  - :633.913 Taraxacum 354, 700.
  - :633.956 Camphor plants 205, 357.
  - :634 Fruits 209, 224, 358, 550, 970, 1095, 1097, 1124.
  - :634.97 Forest trees 209, 238, 882–4, 972.
  - :635 Vegetables 359.
  - :635.24 Jerusalem artichoke 197.
  - :635.34/6 Brassica oleracea 567, 658.
  - :635.41 Spinach 242, 568.
  - :635.61 Melon 898.
  - :635.65 Peas and beans 4, 155, 465–6, 576, 701, 997.
  - :635.72 Mint 358.
- 576.356.52 Haploidy** 18, 140, 422, 478, 811, 826–7.
- 577 GENERAL PROPERTIES OF LIVING ORGANISMS.**
- 577.1 Biological chemistry.**
- 577.16 Vitamins 761, 1085.
  - 577.17 Hormones 187, 331, 1075.
- 577.8 The sexes. Sexuality.**
- :575.1 Mendelism and genetics 992.
  - :576.12 Evolution 589.
  - :633 Crop plants 138, 196, 305, 802–4, 840.
  - :634 Fruits 231–2, 309, 654, 864, 1108.
  - :635 Vegetables 96, 244.
- 578 BIOLOGICAL TECHNIQUE.**
- 578.08 Experimental technique.**
- :575 Breeding and genetics 74, 79, 167, 264, 675, 681, 717, p. 65.
  - :576.3 Cytology 9, 354, 464, 508, 681, 693.
  - :581 Botany 706–7.
  - :633 Crop plants 13, 710, 718.
  - :633.11 Wheat 102, 117, 407, 410–1, 612, 734–5, 1019.
  - :633.13 Oats 124.
  - :633.15 Maize 129, 424, 762.
  - :633.16 Barley 439, 1037.
  - :633.174 Sorghum 769.
  - :633.18 Rice 27.
  - :633.282 Sorghum 462.
  - :633.31/37 Leguminous forage plants 777, 1051.
  - :633.4 Root crops 482, 486, 618, 782, 786, 1057, 1075.
  - :633.5 Fibres 32–3, 177, 368, 489, 492, 1063, 1066.
  - :633.6 Sugar plants 297, 807, 809, 957, 1074–5.
  - :633.7 Stimulants 193, 302, 642, 811, 964.
  - :633.812 Pelargonium 515.
- 24

**578.08—continued.**

- :633.85 Oil plants 194, 517.
- :633.912 Rubber (*Hevea*) 54, 848.
- :634 Fruits 212, 220.
- :635 Vegetables 63, 369–70, 566, 920.

578.088 Use of chemical, mechanical, physical and other agents (for varietal differentiation, etc.) 148, 399, 551, 569, 1075.

**578.6 Microscopic technique 933.****58 BOTANY p. 151.****581 ANALYTICAL OR BIOLOGICAL BOTANY.**

581.01 Internal influences. Influences of development 344, 439, 993.

581.02 External influences in general 91, 334, 347, 1027, 1135.

581.03 Physical and mechanical influences 360, 389, 740, 993, 1007, 1075.

581.032 Water, humidity 691.

581.035 Light emitted and absorbed 1043.

581.035.1 Light absorbed 427, 896, 1070.

581.036 Heat and temperature 94, 105.

581.036.1 Heat 811, 839.

581.036.5 Cold 795, 859.

581.037 Influence of electricity and magnetism 326.

581.039 Centrifuging 509.

581.04 Influence of chemical agencies.

- :575 Breeding and genetics 74, 335, 685.

- :576.353 Mitosis 703.

- :576.356 Haploidy, polyploidy 8, 350–2, 694–6, 998.

- :576.356 Anomalies of division 353, 697.

- :578.08 Experimental technique 9, 464, 508.

- :581.45 Leaf 354.

- :583 Crop plants 95, 269, 355–7, 698–701.

- :634 Fruits 358.

- :635 Vegetables 359, 701.

- :581.143 Growth 361, 590, 704.

- :633.1 Cereals 101, 121, 391–2, 731, 792, 938, 1012.

- :633.263 Ryegrass 153, 464.

- :633.31 37 Leguminous forage plants 472, 701.

- :633.491 Potato 477.

- :633.51 Cotton 355, 626–8, 792, 795–6, 949.

- :633.52 Linum and analogous fibres 179–80, 497–8.

- :633.6 Sugar and starch plants 639, 1069, 1076.

- :633.71 Tobacco 186–7, 508–9, 639, 825.

- :633.842 Capsicum 1085.

- :633.854.78 Sunflower 198.

- :634.97 Forest trees 238.

- :635 Vegetables 358, 576, 906.

581.056 Influence of climate 757.

581.09 Methods of culture p. 252.

**581.1 PLANT PHYSIOLOGY 329, 764, p. 318.****581.13 Assimilation in general 536, 717.****581.14 Development. Growth.**

581.142 Germination 608–9, 707, 829, 1023, 1103.

581.143 Growth 434, 1141.

581.143.26 Rapidity of growth. Periodicity 446, 608, 780, 800, 855, 859, 908, 1075, 1102.

581.143.26.03 Physical and mechanical influences. Vernalization 360, 389, 740, 1007, 1075.

581.143.26.035.1 Light absorbed. Photoperiodism 427, 896, 1070.

581.143.32 Abnormal growth 575, 590, 704, 821, 1150, p. 322.

581.143.7 Seedlings 361, 523, 847, 1090.

581.145 Physiology of development of reproductive organs 1153.

581.145.1 Flower 486, 1070, 1135.

581.148 Degeneration 27, 303, 734.

581.149 Longevity. Death 1095.

**581.16 REPRODUCTION p. 65, p. 152.**

581.162 Sexual reproduction 188, 190, 220, 804, 1075.

581.162.3 Pollination 452, 513, 886, 1107, 1122. •

581.162.31 Self-pollination 244.

581.162.32 Cross-pollination.

- :633 Crop plants 400, 453, 648, 843, 849, 1051.

- :634.835 Grapes 232.

- :634.97 Forest trees 557, 1140.

- :635.65 Peas and beans 912, 916, 1160.

**581.162.4 Physiology of fertilization 1150.****581.162.5 Sterility and incompatibility 705.**

- :575 Breeding 705.

- :576.356.5 Haploidy, polyploidy 702.

- :633.1 Cereals 106–7, 125, 141, 149–51, 771.

- :633.289 Elymus 106.

- :633.311 Lucerne 468.

- :633.42 Brassica 28.

- :633.5 Fibres 631, 806, 1063.

- :633.7 Stimulants 47–50, 185, 510, 513.

- :633.812 Pelargonium 515.

- :633.913 Taraxacum 202–3, 1092.

- :634 Fruits 211, 536, 652, 1102.

- :635 Vegetables 28, 255, 314, 658.

581.162.51 Male and female sterility 187, 1024, 1038, 1111.

581.162.52 Self-sterility 300, 470, 589, 646, 676, 999, 1052, 1075, p. 322.

581.163 Parthenogenesis, etc. 55, 152, 387, 773, 969, 1048, 1107–8, 1129–30.

**581.165 Vegetative reproduction 210, p. 252.**

581.165.1 Production of clones.

—:632.951.1 Derris 11, 270, 595.

- :633 Crop plants 43, 56, 188, 200–1, 300, 523–4, 1081, 1090.

581.165.71 Grafting 53, 84, 828, 1091.

581.165.711 Rootstock 210, 523.

581.165.712 Scion 855.

581.165.72 Cuttings 354, 1090.

**581.18 Movement and irritability 1137.****581.19 PLANT CHEMISTRY.****581.192 Chemical composition of the plant 3, 20, 153–4, 462, 507, 587, 682, 777, 988.****581.3 Reproductive organs 106, 125, 203, 655, 824, 1087, p. 318.**

581.321.1 Ovules 439.

581.331.2 Pollen grains.

- :578.08 Experimental technique 707.

- :581.142 Germination 707.

- :633 Crop plants 49, 129, 297, 435, 439, 454, 758, 807.

- :634 Fruits 652, 1095.

581.331.23 Pollen tubes 211, 829, 1117.

**581.4 MORPHOLOGY 23, 864.****581.43 Root 14, 111, 150, 173, 425, 497, 1142.****581.44 Stem 103, 425, 569, 571, 901.****581.45 Leaf.**

- :576.356.5 Haploidy, polyploidy 354.

- :633 Crop plants 25, 290, 434, 624, 811, 1045.

- :634 Fruits 215, 233, 551.

- :635.64 Tomato 247.

- :635.656 Pea 256.

**581.46 Inflorescence, ear, flower, etc.**

- :575.11 Factorial analysis 587.

- :633.11 Wheat 103, 275, 385, 604, 937, 1013, 1016.

- :633.15 Maize 436.

- :633.16 Barley 1039.

- :633.174 Sorghum 24, 944.

- :633.18 Rice 27.

- :633.35 Vetch 776.

**581.46—continued.**

- :633.63 Sugar beet 1075.
- :633.71 Tobacco 815.
- :635 Vegetables 902, 1143.

**581.466 Modifications of parts of the flower** 454, 618, 623, 629.**581.47 Fruit** 207, 571, 577, 629, 654, 911, 1088, 1105, 1148, 1163.**581.48 Grain, seed.**

- :575.42 Artificial selection 995.
- :633.11 Wheat 102, 941.
- :633.13 Oats 750, 1022.
- :633.15 Maize 126, 133, 426.
- :633.16 Barley 20, 442–3.
- :633.171 Millet 22.
- :633.18 Rice 148–9.
- :633.31/37 Leguminous forage plants 157, 778.
- :633.7 Stimulants 191, 512, 811, 1082.
- :634 Fruits 543, 552, 1124.
- :634.97 Forest trees 887.
- :635.65 Peas and beans 249, 250, 257, 577, 909.

**581.481 Embryo.**

- :576.356 Anomalies of division 362.
- :633 Crop plants 18, 137, 355, 422, 478, 524, 848, 1025, 1046.
- :634 Fruits 212, 222, 1103, 1109.
- :635.646 Egg-plant 1156.

**581.483 Endosperm** 44, 137, 468, 510, 1030, 1033.**581.49 Other organs. Surface irregularities.**

- Hairs 25, 491, 945.
- Spines 905.
- Stomata 1076.

**581.5 ECOLOGY** 235, 851.**581.6 UTILIZATION AND QUALITY OF PLANTS. ECONOMIC BOTANY.**

- :575.11 Factorial analysis 706.
- :578.08 Experimental technique 706.
- :632.951.1 Derris 595, 1004.
- :633 Crop plants 372.
- :633.1 Cereals 20, 147, 761, 765, p. 323.
- :633.257.4 Sorghum 461–2.
- :633.31/37 Leguminous forage plants 777, 779.
- :633.491 Potato 165, 474, 479, 785–6.
- :633.51 Cotton 33, 491, 622, 793, 1060.
- :633.6 Sugar and starch plants 504, 1075.
- :633.7 Stimulants 193, 302, 642, 811, 820, 825, 828, 832, 837.
- :633.85 Oil plants 194, 517, 845.
- :633.913 Taraxacum 204.
- :633.956 Camphor plants 1093.
- :634.22 Plum 858.
- :634.97 Forest trees 883–4.
- :635 Vegetables 239, 258, 564, 580, 900, 911, 919, 1147.

**581.8 PLANT HISTOLOGY** 1075.**581.9 PHYTOGEOGRAPHY. FLORAS** p. 152.

- :576.12 Evolution 265.
- :576.356.5 Haploidy, polyploidy 690, 801.
- :632.111 Damage due to cold 363.
- :633 Crop plants 122, 158, 160, 371, 604, 717, 775, 1047.
- :634 Fruits 213, 547.
- :635.64 Tomato 1154.
- :635.65 Peas and beans 775.

**582 SYSTEMATIC BOTANY** 708, p. 318.

- :575.1 Mendelism and genetics 2.
- :576.1 Evolution 688, 708.
- :633.11 Wheat 673, 735, 936, 1014–5.

**582—continued.**

- :633.11 *Aegilops*. *Aegilops* 1021.
- :633.12 Buckwheat 746–7.
- :633.16 Barley 766.
- :633.18 Rice 150–1.
- :633.491 Potato 787, p. 254.
- :633.51 Cotton 794.
- :633.61 Sugar cane 1073.
- :633.7 Stimulants 830, 835.
- :634 Fruits 529, 651, 874–6, 1106, 1125.
- :634.97 Forest trees 555.
- :635 Vegetables 893, 914, 1154, 1157.

**6 APPLIED SCIENCES** p. 64.**608.3 Patents** 227.**63 AGRICULTURE** p. 65, p. 253, p. 319.**63.00.15 Research** 97, 261, 270, 526, p. 65, p. 319.**631 GENERAL AGRONOMY.**

- 631.421 Design of field experiments** 68, 664–7, 922–5, 978–81, p. 150, p. 250, p. 317.
- :519.271.3 Sampling methods 72–3.
- :633 Crop plants 70, 259, 315, 598, 632–3, 791, 954.
- :634.97 Forest trees 69.

**631.521.5 Seed testing** 28, 860.**631.521.6 Selection of resistant varieties.**

- :575 Breeding 926.
- :633 Crop plants 12, 13, 364, 596–7, 710, p. 153.
- :633.1 Cereals 14, 271, 713.
- :633.11 Wheat.
- — :581.14 Development. Growth 608–9, 734.
- — :632 Resistant to diseases in general 381, 402–4, 726, 739.
- — :632.111 Resistant to cold 110, 389, 405, 740, 1075.
- — :632.112 Resistant to drought 13, 111.
- — :632.13 Resistant to hail 281.
- — :632.183 Resistant to lodging 113.
- — :632.3 Resistant to bacterial diseases 743.
- — :632.4 Resistant to fungous diseases 276.
- — :632.451 to Ustilaginales 277, 610, 741, 985, 1017.
- — :632.452 to Uredinales 15, 401, 742.
- — — :575 Breeding 112–5, 117, 713, 940.
- — — :575.1 Mendelism and genetics 16, 116, 406, 610, 713, 743, 941, 1018.
- — — :578.08 Experimental technique 407.
- — — :632.484 to Fusarium 408.
- — — :632.7 Resistant to insects 118, 409, 1019.
- — :633.12 Buckwheat 412.
- — :633.13 Oats.
- — :632.111/2 Resistant to cold, drought 123–4, 417, 989.
- — :632.45 Resistant to Hemibasidii 278, 414, 417, 713, 750–1, 942, 1002.
- :633.14 Rye 406, 423.
- :633.15 Maize 436–7, 585, 762, 1035–6.
- :633.16 Barley 142, 281, 444, 608.
- :633.174 Sorghum 143, 769.
- :633.18 Rice 455.
- :633.321 Red clover 1053–4.
- :633.42 Brassica 781.
- :633.491 Potato.
- — :632 Resistant to diseases in general 166.
- — :632.3 Resistant to bacterial diseases 167–8, 788.
- — :632.4 Resistant to fungous diseases 169–70, 287, 481–2, 1058, p. 254.
- — :632.6 Resistant to nematodes 620.
- — :632.7 Resistant to insects 170–2, 483.

**631.521.6—continued.**

- :632.8 Resistant to virus diseases 789, 947.
- :633.5 Fibres 292, 368, 495, 500, 799, 1066.
- :633.61 Sugar cane.
- :632 Resistant to diseases and pests 38, 296, 1067–8.
- :632.111 Resistant to cold 502, 636–8, 1071.
- :632.3 Resistant to bacterial diseases 39.
- :632.7 Resistant to insects 40, 295.
- :632.8 Resistant to virus 955, 958, 1072.
- :633.63 Sugar beet 958, 1074–5.
- :633.68 Starch plants 960, p. 321, p. 322.
- :633.71 Tobacco 813, 830–2, 1077–8, p. 320, p. 322.
- :633.73 Coffee 45, 962.
- :633.74 Cacao 963.
- :633.841 Pepper 303.
- :633.85 Oil plants 520, 1089.
- :634 Fruits 525, 1093.
- :634.1 Pome fruits 530–2, 856, 1098.
- :634.2 Stone fruits 325, 1093, 1100.
- :634.3 Citrus fruits 538.
- :634.5 Nuts 58, 308, 541, 863.
- :634.63 Olive 1114.
- :634.7 Small bush fruits 60, 225, 546, 593, 871–2, 971.
- :634.835 Grapes 229, 233, 549, 553, 877.
- :634.97 Forest trees 556, 558, 560, 657, 887.
- :635 Vegetables 563.
- :635.31 Asparagus 989.
- :635.52 Lettuce 570, 899, 1144.
- :635.61 3 Cucurbits 245, 572, 574, 1146–7.
- :635.64 Tomato 64–5, 248, 369–70, 661, 903–4.
- :635.652 Phaseolus 251, 578, 910–1, 1161.
- :635.654 Dolichos, Vigna 251–2.
- :635.656 Pea 254, 663, 917, 920.
- :635.659 Pigeon pea 973.

**631.524 Introduction of new species, varieties, etc.**

- :633 Crop plants 716–7.
- :633.1 Cereals 371, 401, 720, 727, 736–8, 766.
- :633.2 Forage grasses 323.
- :633.31.37 Leguminous forage plants 323, 469.
- :633.491 Potato 287, 480, p. 254.
- :633.51 Cotton 1064.
- :633.61 Sugar cane 37, 636, 955.
- :633.7 Stimulants 514, 836, 1079.
- :633.84 Condiments 841.
- :633.885.1 Cinchona 306.
- :634 Fruits 60, 534–5, 851, 876.
- :635 Vegetables 661, 1157.

**631.531 Seed, seed-sowing.**

- 631.531.12 Origin and production of seed 709, 948, 1005.

**631.543 Planting.**

- 631.543.1 Effect of shade 1110.

**631.556 Harvesting crops other than cereals 797****631.557 Production. Yield.**

- :575 Breeding 371.
- :633.1 Cereals 20, 372, 424, 436, 757, 1016, 1039.
- :633.51 Cotton 629, 1064.
- :633.61 Sugar cane 956–7.
- :633.7 Stimulants 50, 302, 646.
- :633.853.49 Rape 843.
- :633.912 Rubber (Hevea) 307, 849, 968, 1091.

**632 PLANT DISEASES AND PESTS p. 66.**

- :633 Crop plants 12, 596–7.
- :633.11 Wheat 381, 402–4, 726, 739.
- :633.321 Red clover 1053.
- :633.491 Potato 166.
- :633.61 Sugar plants 38, 296, 1067–8.
- :633.73 Coffee 45, 962.
- :633.854.78 Sunflower 520.
- :634 Fruits 532, 549, 871.
- :635 Vegetables 563, p. 155.

**632.1 DISEASES DUE TO METEOROLOGICAL OR PHYSIOLOGICAL CAUSES.****632.111 Cold** p. 152, p. 153.

- :576.356.5 Haploidy, polyploidy 363.
- :581.9 Phytogeography 363.
- :633 Crop plants 710, p. 153.
- :633.1 Cereals 110, 124, 389, 405, 417, 423, 740, 989, 1075.
- :633.61 Sugar cane 502, 636–8, 1071.
- :633.854.56 Tung 1089.
- :634 Fruits 325, 531, 538, 541, 856, 877, 1093, 1114.

**632.112 Drought.**

- :633 Crop plants 13, 111, 123–4, 142, 436, 585, 762.
- :634 Fruits 1093.
- :635 Vegetables 572, 917.

**632.13 Hail 281.****632.183 Lodging, shattering, etc. 113, 1066.****632.19 Physiological diseases 899.****632.2 Cecidology in general, galls, their causes 590.****632.3 Bacteria and bacterial diseases.**

- :576.16 Physiological forms 1034.
- :633 Crop plants 39, 155, 167–8, 412, 466, 743, 788.
- :635 Vegetables 155, 466, 574, 578, 661.

**\*632.4 FUNGOUS DISEASES 14, 98, 276, 364, 495, 525, 920.****632.41 Phycomyces.**

- 632.411.4 Peronosporinae.
- Bremia 1144.
- Peronospora 553.
- Phytophthora 169–70, 287, 872, 971.
- Plasmopara 229.
- Pythium 143.
- 632.412.5 Chytridiinae.
- Finger and toe (Plasmodiophora) 781.
- Wart (Synchytrium) 481–2, p. 254.

**632.42 Ascomycetes.**

- 632.421.1 Perisporiineae.
- Erysiphe 251, 444.
- 632.421.9 Pyrenomycetineae.
- Ceratostomella 558.
- Endothia 308, 541, 556, 863.
- Hypomyces 365.
- Melanospora 887.
- 632.422.3 Saccharomycetinae 98, 280, 366, 591, 711–2, 1000–1, p. 323.

**632.45 Hemibasidii.****632.451 Ustilaginales.**

- 632.451.2 Ustilaginaceae.
- Sphacelotheeca 367.
- Ustilago 414, 417, 437, 713, 741, 750–1, 942, 1002.
- 632.451.3 Tilletiaceae.
- Tilletia 99, 610, 713, 985, 1017.
- Urocystis 277, 610.

**632.452 Uredinales.**

- Cronartium 225, 560.
- Gymnosporangium 530, 1098.
- Puccinia 713.
- :575 Breeding and genetics 10, 99.
- :576.16 Physiological forms 271, 592, 713.
- :631.521.6 Varieties resistant to.
- :633.1 Cereals 271, 713, p. 322.

\* Classified according to Engler's system (cf. A. Engler, "Syllabus der Pflanzenfamilien", 11th edition, Berlin 1936).

**632.452—continued.**

- :633.11 Wheat 15–16, 112–7, 401, 406–7, 610, 713, 742–3, 940–1, 1018.
- :633.13 Oats 278, 414, 417, 713, 750, 942.
- :633.14 Rye 406.
- :635.31 Asparagus 989.

**632.47 Eubasidii.**

- 632.472.3 Hymenomycetinae.
- Witch broom (*Marasmius*) 963.

**632.48 Fungi imperfecti.**

- 632.483 Melanconiales.

- *Colletotrichum* 303, 1054.

- *Gloeosporium* 593.

- 632.484 Hyphomycetales.

- *Botrytis* 1075.

- *Cercospora* 455, 958, 1074–5.

- *Fusarium*.

- :631.521.6 Varieties resistant to.

- :633 Crop plants 292, 368, 408, 1058.

- :634.58 Groundnut 58.

- :635 Vegetables 64, 245, 248, 252, 254, 369–70, 903, 973, 1146.

- *Thielaviopsis* 830.

- *Verticillium* 292.

- 632.485 Mycelial forms.

- *Rhizoctonia* 252.

**632.5 Noxious and parasitic plants.**

- Broom-rape (*Orobanche*) 811.

**632.6 Destructive animals other than insects.**

- Nematodes 252, 620, 910, 1077, 1100.

**632.7 Insect pests.**

- Aphids 1035.

- Chinch bug (*Blissus*) 769.

- *Chlorops* 118.

- *Colorado beetle* (*Leptinotarsa*) 171–2.

- *Epitrix* 170, 483.

- Flea beetle (*Longitarsus*) 303.

- Frit fly (*Oscinella*) 1019.

- Hessian fly (*Phytophaga*) 409, 1019.

- Leaf hopper (*Empoasca*) 170, 483.

- Locust (*Schistocerca*) 1036.

- *Phylloxera* 233, 553, 1003.

- *Phytalus* 295.

- Thrips 813.

- *Tomaspis* 40.

**632.8 DISEASES DUE TO UNKNOWN CAUSES, VIRUS, ETC.**

- Virus p. 253.

- :631.521.6 Varieties resistant to.

- :633.491 Potato 789, 947.

- :633.526.1 Abacá 500.

- :633.6 Sugar and starch plants 955, 958, 960, 1072, p. 321.

- :633.71 Tobacco 831–2, 1078, p. 320, p. 322.

- :634.75 Strawberry 60, 546.

- :635 Vegetables 65, 248, 663, 904, 911, 1147, 1161.

- Unknown causes 570, 657, 799, p. 322.

**632.9 Plant protection p. 323.**

## 632.951.1 Insecticides p. 323.

- Derris 11, 270, 595, 1004.

- Pyrethrum 594, 714, 934, p. 153.

**633/5 VARIOUS CROPS, FRUITS AND VEGETABLES p. 65.****633 CROPS IN GENERAL p. 253.**

- :551.566.1 Tropical climate p. 253.

- :575 Breeding 260, 680, 927–8, 982, 989.

- (41+42) British Isles 316, p. 253.

- (43) Germany 669, 715.

- (44) France 317.

**633—continued.**

- (47) U.S.S.R. 318–22.

- (48.5) Sweden 75–6, 316, 670.

- (48.9) Denmark 77.

- (49.2) Netherlands 78, 671.

- (49.3) Belgium 672.

- (49.1) Switzerland 673.

- (49.5) Greece 323.

- (51) India 1, 584, 929, p. 317.

- (58) South Africa 585.

- (71) Canada 586, 930.

- (73) U.S.A. 674, 983–4, p. 151.

- (81) Brazil 985.

- (92) Netherlands East Indies 986–7.

- (96.1) Fiji 261.

- :551.566.1 Tropical climate 262.

- :575.127 Interspecific and intergeneric hybrids 324.

- :578.08 Experimental technique 74, 79, 675, p. 65.

- :581 Botany 372, 676.

- :632 Diseases 12, 596–7.

- :575.1 Mendelism and genetics 81, 680, 987.

- :575.243 Induced mutations 335.

- :575.42 Artificial selection 932, 995.

- :576.356.5 Haploidy, polyploidy 269, 353, 355, 697–8.

- :578.08 Experimental technique 13, 710.

- :581 Botany 371–2, p. 252.

- :631.524 Introduction of new species, varieties, etc. 716–7.

- :632 Diseases 12, 13, 364, 596–7, 710, p. 153.

**633.00.14 Crop Tests 718.**

- :633.1 Cereals 119–20, 131, 277, 445, 600, 616, 770, 942.

- :633.5 Fibres 293, 621.

- :633.61 Sugar cane 270.

- :633.7 Stimulants 43, 45, 514, 838.

**633.00.15 Research 34, 719, 986, 1073, p. 322.****633.1 CEREALS 14, 935.**

- :519.271.3 Sampling methods 598.

- :537.531 X-rays 100.

- :575 Breeding and genetics 14, 100, 271, 372, 673, 713, 1005, 1075.

- :576.16 Species, varieties, races, ecotypes and their origin 717.

- :576.356.5 Haploidy, polyplodiy 101.

- :581 Botany 14, 101, 360, 608, 717.

- :631 General agronomy 371–2, 598, 709, 720, 1005.

- :632.4 Fungous diseases 14, 271, 713, p. 322.

- :519.241.1 Correlation coefficients 103, 610–1, 723, 734, 743.

- :537.531 X-rays 1013.

- :575 Breeding 272, 728.

- (44) France 110.

- (45) Italy 374, 741.

- (47) U.S.S.R. 375–81, 384, 403–5, 408–9, 713, 739–40, 1075.

- (48.5) Sweden 724.

- (54) India 744, 940.

- (71) Canada 382.

- (73) U.S.A. 113–5, 382, 725.

- (81) Brazil 726, 985.

- (82) Argentina 1006.

- (89) Uruguay 383.

- (93.1) New Zealand 599.

- (94) Australia 15, 272–4, 277, 600–2, 936.

- :578.08 Experimental technique 734.

- :58 Botany 102, 1007.

- :631.524 Introduction of new species, varieties, etc. 727.

- :632 Diseases and pests 403–4, 726, 739.

### **633.11—continued.**

- :632.1 Diseases due to meteorological or physiological causes 110, 113, 405, 740, 1075.
- :632.4 Fungous diseases.
- :632.451 Ustilaginales 277, 741, 985.
- :632.452 Puccinia 112–5, 117, 713, 940.
- :632.484 Fusarium 408.
- :632.7 Insects 409.
- :664.641.016 Baking quality 612.
- :575.1 Mendelism and genetics.**
- :575.11 Factorial analysis 603, 728–9.
- :519.241.1 Correlation coefficients 610.
- :575.127 Interspecific and intergeneric hybrids 275, 1010.
- :581.4 Morphology 103, 385, 604, 937, 941.
- :631.557 Yield 1016.
- :632 Diseases and pests 118, 610, 743, 941, 1018.
- :575.113.7 Lethal genes 388.
- :575.114 Segregation and recombination 108.
- :575.116.1 Linkage, crossing-over 1017.
- :575.12 Hybridization 394, 1075.
- :575.127.2 Interspecific hybrids 730.
- :575 Breeding and genetics 275, 604.
- :576.356 Anomalies of division 104, 386, 731, 792, 1008 9.
- :632.4 Fungous diseases 16, 116, 276, 406, 713.
- :575.127.5 Intergeneric hybrids.
- :576.356.5 Haploidy, polyploidy 938.
- :581.163 Parthenogenesis 387.
- :633.11 *Aegilops*. Wheat-Aegilops hybrids 388
- :633.14 Wheat-rye hybrids 105, 107, 389, 406, 939, 1010.
- :633.289 Wheat-Agropyron hybrids 390, 938.
- — — Wheat-Elymus hybrids 106.
- :575.129 True breeding hybrids, amphidiploids 107–8, 391–2, 406, 731, 938.
- :575.148 Pure lines 1075.
- :575.183 Paternal influence. Xenia 393.
- :575.19 Genealogy 723.
- :575.24 Mutation 394–5, 604, 993, 1011–3.
- :575.42 Artificial selection 605–6, 732.
- :576.3 Cytology.**
- :576.16 Species, varieties, races, ecotypes and their origin 391, 395–7, 604, 607.
- :576.312.3 Structure of the nucleus, chromosomes 109, 396–7, 607, 733, 1011.
- :576.35 Division of the cell and of the nucleus 342.
- :576.354.4 Meiosis 105, 107, 406, 607.
- :576.356 Anomalies of division 104, 386.
- :576.356.2 Segmental interchange and similar structural changes 394, 397–8, 604, 733, 1008.
- :576.356.5 Haploidy, polyploidy 18, 356, 395, 422, 699, 731, 792, 938, 1009.
- :578.08 Experimental technique 102, 117, 407, 410–1, 612, 734–5, 1019.
- :578.088 Use of various agents (for determining varietal distinctions, etc.) 399, 1075.
- :581 Botany.**
- :581.036/04 Physical and mechanical influences 105, 391–2, 731, 792, 938, 1012.
- :581.14 Development. Growth 389, 608–9, 734, 740, 1007.
- :581.16 Reproduction 106–7, 387, 400.
- :581.3 Reproductive organs 106.
- :581.43 Root 111.
- :581.44 Stem 103.
- :581.46 Ear 103, 275, 385, 604, 937, 1013, 1016.
- :581.48 Grain 18, 102, 422, 941.
- :581.9 Phytogeography 604.
- :582 Systematic botany 673, 735, 936, 1014–5.
- :631 General agronomy.**
- :631.5 Agricultural operations 401, 727, 736–8, 1016.

### **633.11—continued.**

- :632 Diseases and pests 381, 402–4, 726, 739.
- :632.1 Diseases due to meteorological or physiological causes 13, 110–1, 113, 281, 389, 405, 740, 1075.
- :632.3 Bacterial diseases 743.
- :632.4 Fungous diseases 276.
- :632.451 Ustilaginales 99, 277, 610, 741, 985, 1017.
- :632.452 Puccinia.
- :575 Breeding and genetics 10, 99.
- :631.521.6 Resistant varieties 15–16, 112–7, 401, 406–7, 610, 713, 742–3, 940–1, 1018.
- :632.484 Fusarium 408.
- :632.7 Insects 118, 409, 1019.
- :664.641.016 Baking quality 390, 410–1, 611–2, 744, p. 66, p. 153.
- 633.11 *Aegilops*. *Aegilops* 388, 745, 1020–1.**
- 633.12 Buckwheat 121, 412, 746–7.**
- 633.13. Oats 277, 600, 942.**
- :519.2 Statistical analysis 73, 124, 613.
- :575 Breeding 613, 750.
- :575.1 (47) *U.S.S.R.* 1075.
- :575.2 (48.5) *Sweden* 748.
- :575.3 (71) *Canada* 278.
- :575.4 (73) *U.S.A.* 413, 417, 751.
- :575.5 (81) *Brazil* 985.
- :575.6 (94) *Australia* 273, 277.
- :575.7 (98) *U.S.S.R.* 1075.
- :632.111 Damage due to cold 417, 989.
- :632.451 Ustilaginales 417, 751.
- :632.452 Puccinia 278, 417.
- :575.1 Mendelism and genetics 414–5, 713, 750, 1022.
- :575.242 Mutants 749, 1023.
- :576.16 Species, varieties, races, ecotypes and their origin 416.
- :576.3 Cytology 415–6.
- :578.08 Experimental technique 124.
- :581 Botany 122, 361, 750, 1022–3.
- :632.111/2 Damage due to frost and drought 123–4, 417, 989.
- :632.451 Ustilaginales 414, 417, 750–1, 942, 1002.
- :632.452 Puccinia 278, 414, 417, 592, 713, 750, 942.
- 633.14 Rye 120.**
- :575 Breeding and genetics 18, 422.
- :575.11 Factorial analysis 17, 108, 1010.
- :575.125 Hybrid vigour 418.
- :575.127.5 Intergeneric hybrids 105, 107, 389, 406, 939, 1010.
- :575.129 True breeding hybrids, amphidiploids 107–8, 406.
- :575.14 Inbreeding 418–9.
- :575.183 Paternal influence. Xenia 420.
- :576.3 Cytology 18, 105, 107, 406, 419, 421–2, 607.
- :581 Botany 18, 105, 107, 125, 389, 422.
- :632 Diseases and pests 406, 423.
- 633.15 Maize 131.**
- :519.241.1 Correlation coefficients 126, 128, 133, 135.
- :535.61–31 Ultra-violet rays 433, 435.
- :575 Breeding.
- :575.1 (45) *Italy* 127.
- :575.2 (47) *U.S.S.R.* 436.
- :575.3 (59.7) *Indo-China* p. 252.
- :575.4 (68) *South Africa* 585, 621.
- :575.5 (73) *U.S.A.* 752–4.
- :575.6 (91.4) *Philippine Islands* 429.
- :519.241.1 Correlation coefficients 128.
- :575.125 Hybrid vigour. Heterosis 429.
- :578.08 Experimental technique 129, 424.
- :581.44 Stem 425.
- :581.557 Yield 436.
- :632 Diseases and pests 436, 585, 762, 1035.
- :575.11 Factorial analysis 426, 1024–5, 1036.
- :575.113 Mendelian factors 138, 755, 1026.

### 633.15—continued.

- :575.114 Segregation and recombination 424, 427.
- :575.116 Linkage, crossing-over 130, 430, 437, 1026–7, 1032.
- :575.12 Hybridization 131–2, 135, 428, 756–7.
- :575.125 Hybrid vigour. Heterosis 133–5, 331, 429, 431, 1028–9.
- :575.127.5 Intergeneric hybrids 430, 760.
- :575.14 Inbreeding 134–5, 424, 431, 756, 1029.
- :575.182 Maternal influence 758.
- :575.247 Somatic mutations, bud sports 1030.
- :575.42 Artificial selection 1031.
- :576.16 Species, varieties, races, ecotypes and their origin 136, 430, 759–60.
- :576.3 Cytology 89, 137, 432–4, 761, 1024, 1030, 1032–3.
- :577.16 Vitamins 761.
- :577.8 Sex 138.
- :578.08 Experimental technique 129, 424, 762.
- :581.02 External influences 1027.
- :581.056 Influence of climate 757.
- :581.1 Physiology 427, 434, 1024.
- :581.331.2 Pollen grains 129, 435, 758.
- :581.4 Morphology 126, 133, 137, 425–6, 434, 436, 1025, 1030, 1033.
- :581.6 Utilization. Quality 761.
- :631.557 Yield 424, 436, 757.
- :632 Diseases and pests 436–7, 585, 762, 1034–6.

### 633.16 Barley 139, 280, 445.

- :519.241.1 Correlation coefficients 20, 445.
- :537.531 X-rays 440–1.
- :575 Breeding 280.
  - (41+42) British Isles 19, 20, 943.
  - (71) Canada 281, 438.
  - (73) U.S.A. 279, 763.
  - (81) Brazil 985.
  - (94) Australia 273, 277, 600, 605.
- :578.08 Experimental technique 439, 1037.
- :581.6 Utilization. Quality 20.
- :632.1 Diseases due to meteorological or physiological causes 142, 281.
- :575.1 Mendelism and genetics 139, 141, 440, 444, 614, 1038–9.
- :575.242 Mutants 440–1, 614.
- :575.41 Natural selection 441.
- :576.35 Division of the cell and of the nucleus 91, 140–1, 764.
  - :578.08 Experimental technique 399, 439, 1037.
  - :581.1 Physiology 20, 141, 608, 764, 1038.
  - :581.3 Reproductive organs 439.
  - :581.4 Morphology 20, 442–3, 1039.
  - :581.6 Utilization. Quality 20, 765, p. 323.
  - :582 Systematic botany 766.
  - :631.5 Agricultural operations 20, 736, 766, 1039.
  - :632 Diseases and pests 142, 281, 444.

### 633.17 Millets. Sorghum.

- 633.171 Millets 21–2, 767, 1040.

### 633.174 Sorghum 770.

- :575 Breeding 282, 621, p. 320.
- :575.1 Mendelism and genetics 23–6, 35, 284, 446, 768–9, 944–5.
- :575.242 Mutants 26.
- :575.42 Artificial selection 143.
- :576.16 Species, varieties, races, ecotypes and their origin 284.
- :578.08 Experimental technique 769.
- :581 Botany 23–5, 446, 944–5, 1150.
- :632 Diseases and pests 143, 769.

### 633.18 Rice 447, 616, 770.

- :575 Breeding 144–5, 283, 448, 455, 615, 770, 1041–2, 1045.

### 633.18—continued.

- :575.1 Mendelism and genetics 146–8, 150–1, 771, 1043–4.
- :575.24 Mutation 149, 449.
- :575.42 Artificial selection 450, 616.
- :576.16 Species, varieties, races, ecotypes and their origin 451, 771.
- :576.3 Cytology 4, 451, 607.
- :578.08 Experimental technique 27, 148.
- :581.035 Light emitted and absorbed 1043.
- :581.1 Physiology 27, 149–51, 452–3, 771.
- :581.3 Reproductive organs 454.
- :581.4 Morphology 27, 148–50, 454, 1045–6.
- :581.6 Utilization. Quality 147.
- :582 Systematic botany 150–1.
- :632.484 Cercospora 455.

### 633.19 Other cereals.

- Teff (Eragrostis) 772.

### 633.2/3 HERBACEOUS AND LEGUMINOUS FORAGE PLANTS.

- 633.2 Forage grasses 323, 456–7, 690.
  - 633.21 Meadow grass (Poa) 152, 458, 773, 1047–8.
  - 633.22 Cocksfoot (Dactylis) 459–60.
  - 633.262 Brome (Bromus) 463.
  - 633.263 Rye grass (Lolium) 153, 464.
  - 633.265 Oat grass (Arrhenatherum) 460.
  - 633.266 Paspalum 1049.
  - 633.282 Andropogonae.
    - Andropogon 1050.
    - Sclerostachya 635.
    - Sorghum (as green forage) 284, 446, 461–2.
  - 633.283 Paniceae.
    - Panicum 1050.
  - 633.284 Phalaridae 774.
  - 633.288 Festuceae.
    - Eragrostis 772.
  - 633.289 Hordeae. Bambuseae. Phareae.
    - Agropyron 154, 390, 460, 938.
    - Bamboo 36, 617.
    - Elymus 106, 154.

### 633.31/37 Leguminous forage plants 155, 323, 456, 465–6, 690, 701, 775, 1075.

- 633.311 Medicago sativa 467–9, 1051–2.
- 633.312 Medicago falcata 467.
- 633.321 Red clover 1053–4, 1075.
- 633.322 White clover 470.
- 633.335 Vetch 156, 776.
- 633.364 Japanese clover (Lespedeza) 471.
- 633.366 Sweet clover (Melilotus) 157, 777.
- 633.367 Lupin 775, 778–9.
- 633.376 Ornithopus 472.

### 633.4 ROOTS AND TUBERS 561.

- 633.41 Beet 158–60, 780.
- 633.416 Forage beet 503, 808, 1075.

### 633.42 Turnip 28, 372, 618, 780–1.

### 633.491 Potato p. 66.

- :519.241.1 Correlation coefficients 1055.
- :575 Breeding 161, 1056.
  - (41+42) British Isles 285, 619.
  - (47) U.S.S.R. 286, 789.
  - (73) U.S.A. 162, 170, 473–4.
  - (94) Australia 946.
- :578.08 Experimental technique 782, 1057.
- :581.6 Utilization. Quality 165, 786.
- :632 Diseases and pests 166, 170, 287, 482, 620, 789, 947, 1058.
- :575.1 Mendelism and genetics 163, 171–2, 476, 478, 783, 891, 1055, p. 254.
- :575.2 Variations, modifications, mutations 479.
- :575.3 Adaptation 784.

**633.491—continued.**

- :576.16 Species, varieties, races, ecotypes and their origin 475.
- :576.35 Division of the cell and of the nucleus 95, 163–4, 476–8.
- :578.08 Experimental technique 482, 782, 786, 1057.
- :58 Botany 165, 474, 477–9, 785–7, p. 254.
- :631.524 Introduction of new species, varieties, etc. 287, 480, p. 254.
- :632 Diseases and pests 166.
- :632.3 Bacterial diseases 167–8, 788.
- :632.4 Fungous diseases 169–70, 287, 481–2, 1058, p. 254.
- :632.6 Destructive animals (nematodes) 620.
- :632.7 Insect pests 170–2, 483.
- :632.8 Virus diseases 789, 947.

**633.492 Sweet potato (*Ipomoea Batatas*)** 173, 484–6, 790, 1059.

**633.5/9 INDUSTRIAL CROPS** 988.**633.5 FIBROUS PLANTS** 779.

- 633.51 Cotton (*Gossypium*)** 34, 288, 490, 621, 770.
- :519.24 Statistical analysis 491, 629, 791, 793.
- :575 Breeding 928
- (41) *British Empire* 34, 621.
- (51) *China* 174.
- (54) *India* 29–31, 629, 948–9.
- (62.4) *Anglo-Egyptian Sudan* 288, 621.
- (66.9) *Nigeria* 621, p. 320.
- (67.5) *Belgian Congo* 175.
- (67.61) *Uganda* 621.
- (67.8) *Tanganyika Territory* 621.
- (68) *South Africa* 621.
- (72.9) *West Indies* 621–2.
- (76.4) *Texas* 487, 797.
- (81) *Brazil* 488.
- (94.3) *Queensland* 621.
- :575.14 Inbreeding 793.
- :578.08 Experimental technique 32, 489.
- :581 Botany 622, 629, 1060.
- :631.556 Harvesting 797.
- :575.1 Mendelism and genetics 263, 948, 1061.
- :575.11 Factorial analysis 290–1, 490, 621, 623–4, 629, 949–50.
- :575.12 Hybridization 176, 289, 355, 626, 792, 796, 949, 1062–3.
- :575.14 Inbreeding 491, 793.
- :575.242 Mutants 290–1, 623.
- :575.42 Artificial selection 292, 492.
- :576.16 Species, varieties, races, ecotypes and their origin 263, 289, 625, 794.
- :576.312.35 Chromosome number 289.
- :576.356 Anomalies of division 176, 355, 626–8, 792, 795–6, 949, 1062.
- :578.08 Experimental technique 32–33, 368, 489, 492, 1063.
- :581.03/04 *Physical and mechanical agents* 355, 626–8, 792, 795–6, 949.
- :581.162.5 Sterility and incompatibility 1063.
- :581.4 Morphology 290, 355, 491, 623–4, 629.
- :581.6 Utilization. Quality 33, 491, 622, 793, 1060.
- :582 Systematic botany 794.
- :631 General agronomy 629, 791, 797, 948, 1064.
- :632.484 Hyphomycetales 292, 368.
- :633.85 As oil plant 492.

**633.513 Hairs from fruits of Bombaceae, etc. Kapok (*Ceiba*)** 1065.

**633.52 Linum and analogous fibres.**

- :575 Breeding and genetics 177–8, 493–5, 798–800.
- :576.3 Cytology 95, 179, 494.

**633.52—continued.**

- :578.08 Experimental technique 177, 1066.
- :581 Botany 179, 800.
- :632 Diseases and pests 495, 799, 1066.
- :633.854.54 As oil plant 845.

**633.522 Hemp** 180, 496–8, 798, 801–4.

**633.523 Jute (*Corchorus*)** 499, 630.

**633.524.3 Malvaceous fibres not otherwise specified. Hibiscus, etc.** 499.

633.524.33 *Urena* fibre 805.

633.524.34 *China jute* 499, 806.

**633.526.1 Abacá** 500, 631.

**633.526.2 Agave** 87, 293.

633.526.23 *Sisal* 501.

633.526.24 *Cantala* 501.

**633.528.2 Luffa** 181.

**633.6 SUGAR PLANTS. STARCH PLANTS.**

**633.61 Sugar cane (*Saccharum*)** 270, 294, 1073.

—:519.24 Statistical analysis 70, 632–3.

—:575 Breeding.

— (54) *India* 951.

— (69.82) *Mauritius* 39, 295.

— (72.9) *West Indies* 634, 952–3.

— (73) *U.S.A.* 182, 637, 1067.

— (88) *British Guiana* 35.

— (91.4) *Philippine Islands* 1068.

— (94.3) *Queensland* 296.

—:578.08 Experimental technique 807.

—:631.524 Introduction of new species, varieties, etc. 37.

—:632 Diseases and pests 38, 39, 637, 955.

—:575.127 Interspecific and intergeneric hybrids 35, 36, 502, 637–8.

—:576.16 Species, varieties, races, ecotypes and their origin 635.

—:576.356.5 Haploidy, polyploidy 1069.

—:578.08 Experimental technique 297, 807, 957.

—:58 Botany 297, 807, 1069–70, 1073.

—:631 General agronomy 37, 632–3, 636, 954–7.

—:632 Diseases and pests 38, 296, 1067–8.

—:632.111 Damage due to cold 502, 636–8, 1071.

—:632.3 Bacterial diseases 39.

—:632.7 Insect pests 40, 295.

—:632.8 Virus diseases 955, 958, 1072.

**633.63 Sugar beet** 315, 503, 808–9, 958–9, 1074–5.

**633.68 Starch plants.**

633.682 *Cassava* 183, 504, 639, 865, 960, 1076, p. 321.

633.689 Other starch plants

— Taro (*Colocasia*) 505, p. 322.

— *Xanthosoma* p. 322.

**633.7 STIMULANTS.**

**633.71 Tobacco.**

—:537.531 X-rays 21, 827.

—:575 Breeding.

— (43.8) *Czechoslovakia* 810.

— (47) *U.S.S.R.* 811.

— (49.4) *Switzerland* 812.

— (49.7) *Bulgaria* 813.

— (68.9) *Rhodesia* 298.

— (73) *U.S.A.* 830–1.

— (92.2) *Java* 814.

—:578.08 Experimental technique 811.

—:581 Botany 811, 828, p. 322.

—:632 Diseases and pests 813, 830–1, 1077.

—:575.11 Factorial analysis 811, 815.

—:575.12 Hybrids 816.

—:575.125 Hybrid vigour 811, 816.

—:575.127.2 Interspecific crosses 184, 506.

—:575.129 True breeding hybrids, amphidiploids 187.

**633.71**—*continued.*

- : 576.3 Cytology 639, 811, 817–9.
- : 581 Botany 185, 507, 510, 590, 811, 820, 832.
- : 632.8 Virus diseases 832, 1078.
- : 575.127.5 Intergeneric crosses 510.
- : 575.129 True breeding hybrids, amphidiploids 186–7, 508, 811, 817, 819.
- : 575.24 Mutation 41–2, 821–2.
- : 575.42 Artificial selection 299, 823.
- : 576.16 Species, varieties, races, ecotypes and their origin 817.
- : 576.3 Cytology 824.
- : 576.312.34 Chromosome size and form 42.
- : 576.353 Mitosis 41.
- : 576.354.4 Meiosis 42, 817.
- : 576.356 Anomalies of division 185, 818.
- : 576.356.2 Segmental interchange and similar structural changes 41, 590, 815.
- : 576.356.4 Monosomics, polysomics, etc. 42.
- : 576.356.5 Haploidy, polyploidy 820.
- : 575.12 Hybridization 186, 508, 639, 811, 819.
- : 576.3 Cytology 42, 824.
- : 577.17 Hormones 187.
- : 581 Botany 509, 825.
- : 576.356.52 Haploidy 811, 826–7.
- : 577.17 Hormones 187.
- : 578.08 Experimental technique 811.
- : 581.03/04 Physical, mechanical and chemical agencies 186–7, 508–9, 639, 811, 825.
- : 581.1 Physiology 185, 187, 507, 510, 590, 821, 828–9, p. 322.
- : 581.3 Reproductive organs 824, 829.
- : 581.4 Morphology 510, 811, 815.
- : 581.6 Utilization. Quality 507, 811, 820, 825, 828, 832.
- : 582 Systematic botany 830.
- : 632 Diseases and pests 811, 813, 830–2, 1077–8, p. 320, p. 322.

**633.72** Tea (*Camellia Thea* Link.) 188, 300, 640–2, 833–4.**633.73** Coffee (*Coffea*) 45, 511.

- : 575 Breeding 43, 45, 302, 643–4, 961–2, 1079, p. 320.
- : 575.1 Mendelism and genetics 44, 301, 512, 1080.
- : 575.2 Variations, modifications, mutations 189, 302.
- : 576.16 Species, varieties, races, ecotypes and their origin 836.
- : 576.35 Division of the cell and of nucleus 301, 1080.
- : 578.08 Experimental technique 302.
- : 58 Botany 43–4, 190–1, 302, 512, 835, 1081.
- : 631.5 Agricultural operations 302, 836, 1079.
- : 632 Diseases and pests 45, 962.

**633.74** Cacao (*Theobroma*) 192, p. 322.

- : 575 Breeding and genetics 46, 270, 645, 963, 1082, p. 320–1.
- : 581 Botany 47–50, 513, 646, 1082, p. 322.
- : 631.557 Yield 50, 646.
- : 632.472.3 Resistant to witch broom 963.

**633.75** Poppy (*Papaver*) 193, 837.**633.79** Hops and other stimulants 51, 280, 514, 838–40, 964, p. 323.**633.81/4** AROMATIC PLANTS. CONDIMENTS 988.**633.81** Aromatic plants 1083.

633.812 Pelargonium 515.

**633.82** Aromatic spices.

633.821 Vanilla 1084.

633.825 Ginger p. 153.

**633.84** Condiments.633.841 Pepper (*Piper*) 303, 841.

633.842 Capsicum 52, 259, 647, 965, 1085.

**633.85** OIL PLANTS 194, 304, 492, 516–7, 842, 1086.

- 633.853.49 Rapé, colza, etc. 21, 843.
- 633.853.55 Castor oil 518, p. 153, p. 252.
- 633.854 Drying oils.
  - Lallemandia 844.
- 633.854.54 Linseed 195, 493, 519, 648, 845, 935, 985.
- 633.854.559 Euphorbia 1087.
- 633.854.56 Tung 196, 305, 649, 1088–9, p. 252.
- 633.854.78 Sunflower (*Helianthus*) 197–8, 520, 811, 846.
- 633.854.797 Safflower (*Carthamus*) 650.
- 633.855.34 Oil palm 270, p. 320, p. 322.

**633.88** MEDICINAL PLANTS 199, 966.

633.885.1 Cinchona 306, 521–2, 1090.

**633.9** OTHER INDUSTRIAL PLANTS.**633.91** Rubber plants.

- 633.912 Hevea.
  - : 519.241.1 Correlation coefficients 307.
  - : 575 Breeding and genetics 53–6, 188, 307, 524, 847, 849, 967–8.
  - : 578.08 Experimental technique 54, 848.
  - : 581.143.7 Seedlings 523, 847.
  - : 581.16 Reproduction 53, 55–6, 188, 200–1, 523–4, 849, 1091.
  - : 581.481 Embryo 524, 848.
  - : 631.5 Agricultural operations 55, 307, 849, 968, 1091.

633.913 Rubber from other plants.

— Taraxacum 202–4, 354, 700, 1092.

**633.95** Sap plants.

- 633.956 Camphor plants.
  - Ocimum 205, 357, 988, 1093.

**634** FRUIT CROPS. FORESTRY 921, p. 154.

- : 575 Breeding 80, 325–6, 525–7, 988, 1093, p. 67.
- : 575.1 Mendelism and genetics 332, 528, 850, 1094.
- : 575.247 Somatic mutations 206.
- : 576.16 Species, varieties, races, ecotypes and their origin 57.
- : 576.356.5 Haploidy, polyploidy 358, 1095.
- : 58 Botany 529, 851, 1095.
- : 631.524 Introduction of new species 851.
- : 632 Diseases 525, 1093.

634.00.14 Crop tests 270, 867.

**634.1** POME FRUITS.**634.11** Apple 1096.

- : 575 Breeding 209, 530, 852–4, 856.
- : 575.1 Mendelism and genetics 207, 210, 332, 530–1, 856, 1098.
- : 575.247 Somatic mutations 208.
- : 576.356.5 Haploidy, polyploidy 209, 1097.
- : 578.08 Experimental technique 212.
- : 581 Botany 207, 210–2, 855.
- : 632 Diseases 530–1, 856, 1098.

**634.13** Pear 208, 213, 532–3, 651, 852, 856, 1096.**634.2** STONE FRUITS 534–5, 1093, 1099, 1100.**634.21** Apricot 1096.**634.22** Plum 214, 857–8, 1101.**634.23** Cherry 215, 325, 536, 652, 1102.**634.25** Peach.

- : 575 Breeding and genetics 216–8, 859–60, 1101, 1103–5.
- : 578.08 Experimental technique 212.
- : 58 Botany 212, 859, 1103, 1105–6.
- : 631.521.5 Seed testing 860.

**634.31/34 CITRUS FRUITS** 219–20, 537–8, 1107, p. 320.

634.31 Orange 221, 861.

634.337 Lime 270.

**634.37 Fig** 712.

**634.39 Bread-fruit** 862.

**634.4 Various small fruits.**

634.42 Myrtaceous fruits.

— Myrciaria 222.

634.441 Mango (*Mangifera indica*) 653.

634.451 Japanese persimmon 1108–9, 1150.

634.461 Tamarind (*Tamarindus indica*) 1110.

**634.5 Nuts.**

634.51 Walnut 539, 541.

634.52 Pecan 540–1.

634.53 Chestnut 308, 541, 556, 863, 1111.

634.551 Common almond 542.

634.574 Pistachio 864.

634.58 Groundnut (*Arachis hypogaea*) 58, 270, 543, 865, 1112, p. 320.

**634.6 Palmaceous and other tree fruits** 866.

634.61 Coconut (*Cocos nucifera*) 59, 1113.

634.63 Olive 1114, p. 254.

634.651 Papaya 309, 653–4.

634.653 Avocado 867–9, 1115.

634.662 Jujube 655.

**634.7 Small bush fruits.**

634.71 Brambles (*Rubus*) 969–70.

634.711 Raspberry (*Rubus Idaeus*) 223–4, 870, 1116–7.

634.714 Loganberry, etc. 970.

634.715 Blackberry 970, 1118.

634.72 Currant, gooseberry (*Ribes*) 225, 544–5.

634.723 Blackcurrant 1119.

634.725 Gooseberry 871, 1119.

634.73 Bilberry, whortleberry, etc. 1120–2.

**634.75 Strawberry (*Fragaria*)** 60, 226, 546, 872, 971, 1123–4.

**634.771 Banana** 593, 645, 1125.

**634.774 Pineapple (*Ananas sativus*)** 61, 547, 656.

**634.8 Viticulture. Vines. Grapes** 876.

634.835 Vine varieties.

—:575 Breeding 227–8, 548–9, 1126, 1129.

—:575.1 Mendelism and genetics 229, 231, 548, 552, 873, 875, 877, 1127–8.

—:575.247 Somatic mutation 1130.

—:576.16 Species, varieties, races, ecotypes and their origin 230.

—:576.356.5 Haploidy, polyploidy 550.

—:577.8 Sexuality 231–2.

—:578.08 Use of chemical, mechanical, physical and other agents (for varietal differentiation, etc.) 551.

—:58 Botany 232–3, 551–2, 874–6, 1129–30.

—:608.3 Patents 227.

—:631.524 Introduction of new species, varieties, etc. 876.

—:632 Diseases and pests 229, 233, 549, 553, 877.

**634.9 FORESTRY.**

**634.97 FOREST TREES** 311, 1134, p. 154.

—:575 Breeding 234, 1131, 1134.

— (48.5) Sweden 878, 1132.

— (48.9) Denmark 1133.

— (71) Canada 310.

— (73) U.S.A. 235, 554, 879.

—:581 Botany 235, 1135.

—:575.127.2 Interspecific hybrids 311.

—:576.16 Species, varieties, races, ecotypes and their origin 1136–7.

—:581 Botany 235, 1135, 1137.

**634.972 Principal deciduous trees. Dicotyledons.**

634.972.1 Oak 880–1.

634.972.3 Poplar 209, 555, 882–4, 972, 1132, 1138–9.

634.972.4 Chestnut 556.

634.972.6 Birch 557, 1136.

634.972.8 Elm 558.

634.973 Other dicotyledons.

— Eucalyptus 559.

**634.975 Gymnosperms** 1141.

— Hemlock (*Tsuga*) 237.

— Larch (*Larix*) 236, 1133.

— Pine (*Pinus*) 69, 238, 560, 657, 885, 887, 1140.

— Spruce (*Picea*) 886.

## 635 CULINARY AND ORNAMENTAL HORTICULTURE. VEGETABLES.

921, p. 68.

—:575 Breeding and genetics 561–3, 677, 888–91.

—:576.16 Species, varieties, races, ecotypes and their origin 57.

—:576.356.5 Haploidy, polyploidy 359.

—:632 Diseases 563, p. 155.

**635.00.14 Crop tests** 62, 273, 621, 770, 914, 1162.

635.13 Carrot 892.

635.15 Radish (*Raphanus*) 658, 1142.

635.24 Jerusalem artichoke 197, 520.

635.25 Onion 3, 239, 312, 564.

635.26 Other Alliums 3, 312.

635.31 Asparagus 565, 989.

635.34/6 Brassicaceae 28, 893.

635.34 Cabbage 566, 658.

635.347 Borecole, kale 567, 658–9.

635.35 Cauliflower 240, 894.

635.41 Spinach 241–2, 568, 895.

635.45 Sorrel (*Rumex*) 96.

635.46 Purslane (*Portulaca*) 1143.

635.52 Lettuce 569–70, 660, 896, 899, 1144.

**635.6 Edible seeds and fruits.**

635.61/3 Cucurbits 571.

635.61 Melons 243–4, 897–8.

635.611 Musk-melon, cantaloupe, winter melon 245.

635.615 Water-melon 572, 1145–6.

635.62 Cucurbita 246, 897, 1147–8.

635.621 Summer squash 1149.

635.624 Pumpkin 573.

635.63 Cucumber 574, 899, 1150–1.

635.64 Tomato 62.

—:519.24 Statistical analysis 313.

—:537.531 X-rays 902.

—:575 Breeding 62, 65, 245, 575, 899, 900, 903.

—:575.11 Factorial analysis 247, 313, 330, 901, 1152.

—:575.12 Hybridization 63–4, 83, 248, 901, 904,

1153.

—:575.243 Induced mutation 902.

—:576.354.4 Meiosis 344.

—:578.08 Experimental technique 63, 369–70.

—:58 Botany 247, 575, 900–2, 1153–4.

—:632 Diseases and pests 64–5, 248, 369–70,

903–4.

635.646 Egg-plant, brinjal (*Solanum Melongena*) 100, 661,

1155–6.

635.648 Okra, Lady's Fingers (*Hibiscus esculentus*) 905.

**635.65 Peas and beans** 155, 465, 577, 701, 775, 906,

1075.

635.651 Broad bean (*Vicia*) 88, 92, 341, 576, 691, 1157.

635.652 Phaseolus 935, 1158.

—:575 Breeding 577, 907–8, 919, 1159, 1161.

—:575.11 Factorial analysis 66, 249–51, 909–11.

—:575.3 Adaptation 577, 908.

—:581 Botany 249–50, 577, 908–9, 911, 919.

—:632 Diseases and pests 251, 578, 910–1, 1161.

- 635.653 Lima bean 912, 1160.  
635.654 Dolichos. Vigna.  
— Cowpea (*Vigna* syn. *Dolichos sinensis*) 251-2, 913,  
p. 320.  
635.655 Soya bean (*Glycine hispida*) 253, 579-80, 621,  
770, 865, 914-6, 1162.  
635.656 Peas (*Pisum*) 273, 935.  
— 575 Breeding 254, 258, 581, 605, 663, 917-20,  
1075.  
— 575.11 Factorial analysis 255-7, 314, 662, 1163.  
— 575.242 Mutants 255, 314.  
— 576.35 Division of the cell and of the nucleus 5, 93,  
255, 314, 466, 662, 997.  
— 578.08 Experimental technique 920.  
— 581 Botany 255-8, 314, 919, 1163.  
— 632 Diseases and pests 254, 466, 663, 917, 920.

635.657 Gram (*Cicer arietinum*) 4.

635.658 Lentil (*Lens*) 582.

635.659 Other legumes.

— Pigeon pea (*Cajanus*) 973.

**635.67 Sweet corn** 562, 583, 919.

635.677 Popcorn 136.

**635.72 Mint, peppermint** 358.

**66 INDUSTRIAL CHEMISTRY.**

**664.641 Flour.**

664.641.016 Baking and milling value or "quality" 390,  
410-1, 611-2, 744, p. 66, p. 68, p. 153.

---

**CORRIGENDA TO "PLANT BREEDING ABSTRACTS"**  
**VOLUME X**

Abst. 353, line 4 for "mitosis" read "cell division"  
— 724, line 5 — "31-40" — "31-32"

**THE IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,**  
**School of Agriculture, Cambridge, England.**

*Director:* PROF. F. L. ENGLEDOW, M.A., Drapers' Professor of Agriculture.

*Deputy Director:* P. S. HUDSON, Ph.D.

*Assistants :*

MISS M. L. C. WILSON, B.A.

J. L. FYFE, M.Sc.  
 (Temporary).

H. W. HOWARD, Ph.D.  
 (Temporary).

*Secretary:* MISS K. M. STEARN.

**Publications :**

**PLANT BREEDING ABSTRACTS.**

Issued quarterly. Subscription 25/-, with Subject Index 27/6. (Subscriptions sent direct from within the British Commonwealth of Nations are subject to a reduction of 5/-.) Single copies 7/6 each. Drafts should be made out in sterling currency.

A few back numbers of Vol. V onwards are obtainable at 35/- per volume, single numbers 10/- each.

Copies of "Plant Breeding Abstracts" printed on one side of the paper can be supplied, for the convenience of readers wishing to cut up and file the references, at an additional cost of 5/- per volume.

**Important Note.**—Every effort is made to make Plant Breeding Abstracts as complete as possible and its notices of papers referring to plant breeding or the genetics of crop plants as prompt as possible. To aid in this, authors are invited to send to the Deputy Director copies of their papers immediately on publication.

**Other Publications :**

**INDEXES**

	s. d.
Subject Index to Vols I to V of Plant Breeding Abstracts .. . . .	2 6
Subject Index to Vols VI to VIII of Plant Breeding Abstracts .. . . .	2 6
Subject Index to Vol. IX of Plant Breeding Abstracts .. . . .	2 6
Subject Index to Vol. X of Plant Breeding Abstracts .. . . .	2 6

**SUPPLEMENTS TO PLANT BREEDING ABSTRACTS**

Summary of Reports received from Countries exclusive of the British Empire, 1928-31. Supplement I. .. . . .	2 6
Summary of Reports received from Stations in the British Empire, 1932-35. Supplement II .. . . .	2 6

**TECHNICAL COMMUNICATIONS**

Vernalization and Phasic Development of Plants .. . . . .	10 0
An Outline of Cytological Technique for Plant Breeders .. . . . .	1 6
The South American Potatoes and their Breeding Value .. . . . .	3 6
The Action and Use of Colchicine in the Production of Polyploid Plants, by J. L. Fyfe .. . . . .	1 0
Field Trials : their Lay-out and Statistical Analysis by John Wishart .. . . .	2 6
Joint Publication No. 3. The Breeding of Herbage Plants in Scandinavia and Finland .. . . . .	4 0

Subscriptions to any of the above Publications should be sent to The Secretary, Imperial Agricultural Bureaux, 2, Queen Anne's Gate Buildings, London, S.W.1

**Loss in Transit.**—Claims for numbers of Plant Breeding Abstracts lost in transit will only be considered if notice of such loss is received within three months of the date of posting.

	s. d.		s. d.
BIBLIOGRAPHICAL MONOGRAPHS			
Breeding Varieties Resistant to Disease .. . . .	2 0		
Breeding Resistant Varieties, 1930-33 (Supplement) .. . . .	2 0		
Oat Breeding Bibliography .. . .	1 6		
Rice Breeding Bibliography .. . .	1 6		
Bibliography on Interspecific and Inter-generic Hybridization in Relation to Plant Breeding .. . . .	2 0		
Account of Research in Progress in the British Empire .. . . .	3 6		
Rye Breeding Bibliography .. . .	1 6		
Bibliography on Breeding Sorghums and Millets .. . . .	1 0		
The Experimental Production of Haploids and Polyploids .. . . .	2 6		
Tobacco Breeding Bibliography .. . .	1 0		
Bibliography of Baking Quality Tests, Supplement .. . . .	1 6		
Bibliography on Cold Resistance .. . .	1 6		

# IMPERIAL AGRICULTURAL BUREAUX

---

## IMPERIAL BUREAU OF PLANT BREEDING AND GENETICS,

School of Agriculture,

Cambridge, England,

covers current literature on the breeding, genetics, and cytology of economic plants, including forage crops, fruits, and forest trees, and relevant publications in allied fields, such as applied statistics, plant pathology and other sciences.

For publications see inside cover.

---

## IMPERIAL BUREAU OF PASTURES AND FORAGE CROPS,

Aberystwyth, Great Britain,

covers current literature on grassland and forage crop research, the botanical aspect of soil conservation and certain plant biological research.

Publications: Herbage Abstracts, 25/- per annum,\* 7/- per quarter.

Herbage Reviews, 15/- per annum, 4/- per quarter. (To be discontinued at the end of 1940 until further notice).

---

## IMPERIAL BUREAU OF HORTICULTURE AND PLANTATION CROPS,

East Malling, Kent, England,

covers current literature on horticulture, including fruit, vegetables, commercial flower production, the cultivation of tropical plantation crops and the storage and processing of horticultural products.

Publication : Horticultural Abstracts, 25/- per volume,\* single copies 6/6.

---

## IMPERIAL FORESTRY BUREAU,

39, Museum Road,

Oxford, England,

covers current literature on all branches of forestry and issues a quarterly publication.

Publication : Forestry Abstracts, 25/- per annum,\* single copies 7/6.

---

## IMPERIAL BUREAU OF SOIL SCIENCE,

Rothamsted Experimental Station,

Harpden, Herts.,

covers current literature on soil science, and issues an abstracting journal six times yearly.

Publication : Soils and Fertilizers, 25/- per annum.\*

\* These prices are subject to a reduction of 5/- per volume to subscribers within the British Commonwealth sending their subscriptions direct to the Bureau. Details on application to its Deputy Director, to whom subscriptions to its Abstracts Journal should be sent. Certain Bureaux publish special editions of their abstracts journals printed on one side of the paper only, for use in card indexes.